Forest Administration
in the Andamans, progress
report
1910-11 to 1913-14

00132865

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OF THE
ROYAL ASIATIC SOCIETY.
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PROGRESS REPORT

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FOREST ADMINISTRATION IN THE ANDAMANS

FOR 1910-11 to 1913-14

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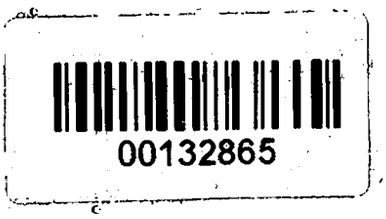

CALCUTTA
SUPERINTENDENT GOVERNMENT PRINTING, INDIA
1911

No. C. C.—114, dated Port Blair, the 28th September 1911.

From—Sir H. A. FARRINGTON, BART., Deputy Conservator of Forests, Andamans Division,

To—The Chief Commissioner and Superintendent of Port Blair.

I have the honour to forward herewith the Annual Progress Report of Forest Administration in the Andamans for 1910-11.

No. $\frac{1907}{VII-22}$, dated Port Blair, the 21st October 1911.

From—Lieutenant-Colonel H. A. Browning, I.A., Superintendent of Port Blair,

To—The Secretary to the Government of India, Department of Revenue and Agriculture.

I have the honour to submit, in original, letter No. C. C.—114, dated the 28th ultimo, from the Deputy Conservator of Forests, Port Blair, together with his Annual Report for the year 1910-11 with forms of appendices.

2. No offer for the lease of the forests in the North Andaman has yet been received, nor have Messrs. Gillanders, Arbuthnot & Co. made any proposal with regard to these forests as a result of the exploration of them by a representative of the firm.

3. The permanent tramway was especially well looked after during the year, and consequently the working of the locomotives has given more satisfaction than has been the case for years past. The experimental use of Andaman timbers as sleepers should enable the Forest Officer to ascertain, in a small way, what species are likely to prove suitable for such use on large railways. Temporary tram lines were laid down in, and removed from, localities as necessity arose. There were 2·7 miles of purely temporary lines in use at the close of the year, and the cost of their construction, maintenance and lifting was R1,544 as against R2,466 last year.

4. The measures adopted for the natural as well as for the artificial reproduction of padouk and other species of timber were satisfactory. The sowing of paddy in padouk taungyas in large quantities, which was recommended by a previous inspecting officer, did not however meet with the approval of the present Conservator of Forests, Pegu Circle, who inspected the forests this year : the results of the 1910 sowings of padouk seedlings were very unequal ; in those plantations where hill paddy was sown, padouk seedlings had disappeared and had been replaced by grass ; this was said to be due to the cutting back of all the inferior species of seedlings 2 or 3 times in the interest of the paddy. The Forest Officer has now arranged to have the paddy sown further away from the padouk and only creepers being uprooted, woody growth being merely cut back.

5. The system introduced during the year of disposing of padouk, gurjan and didu by tender for 12 months has been attended so far with good results as regards prices realised ; this system will be adhered to next year. The difficulty to which the Forest Officer alludes regarding the want of sufficient steam machinery to saw up all the timber that can be extracted is not supported by the Executive Engineer who manages the Chatham saw mill. The latter officer complains that the timber sent to the mill on occasions is so hollow that it is not worth the expense of sawing and that the saws are in consequence sometimes idle. This conflict of opinion will, however, disappear next year as the charge of the saw mill on Chatham Island is, from the commencement of the next official year, to be transferred from the Public Works Department to the Forest Department, when its scope and financial condition will be a Forest Department concern. During the year the rubber plantation has been considerably extended and much care has been bestowed on its preservation. Favourable financial results are, therefore, anticipated in due course.

6. The stock of elephants was increased during the year by 8 new animals. All the elephants are in good condition and have been well looked after. The steam timber boat " Rosamond " has amply justified its construction ; it has proved very useful and has adequately dealt with all the timber extracted from the outlying forest camps.

7. Seven hundred and fifty-three thousand five hundred and thirteen cubic feet of timber, against 374,378 cubic feet last year, were extracted during the year by the Forest Department, the large increase being due to increased demand for gurjan and didu and to the padouk contracts under the new tenders for 1911. 330,026 cubic feet of timber were exported against 222,107 last year, chiefly of padouk, gurjan and didu.

8. The increase of revenue, *viz.*, R71,511, over the figures of last year was due to higher rates obtained by advertising, as well as to more timber having been sold. The increase of expenditure, *viz.*, R30,966, over the figures of last year is more than accounted for by the purchase of 8 elephants during the year for R38,168.

9. Sir Henry Farrington, Bart., was in charge of the Forest Department during the year; he showed his usual zeal and energy and continued to successfully administer his charge. Messrs. Kelly and Bonig, Extra Assistant Conservators of Forests, have both done exceedingly well, and I endorse the favourable remarks of the Deputy Conservator of Forests on the work and conduct of the ranger as well as of the clerical staff of the Forest Department.

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Progress Report of the Forest Administration in the Andamans for 1910-1911.

CHAPTER I.

CONSTITUTION OF STATE FORESTS.

I.—Alteration of Areas.

1. The reduction of the area of the Mount Harriett Reserve from 45 to 40 square miles as noted in the last year's report was duly gazetted in Notification No. 9, dated 25th August 1910.

The only other alteration to record is the extension of the village clearing in the centre of the Dhani Khari reserve, a further area of 14 acres, a considerable proportion of which was high land under gurjan forest, having been cleared during the year. Further clearings will be necessary in order to provide the requisite area for grazing ground which is at present non-existent.

The area cleared up to date has been shewn in Form No. 51.

II.—Forest Settlement.

2. None required.

III.—Demarcation.

3. The boundaries of the following reserves were freshly demarcated during the year :—

Reserve.	Miles.		Cost.
			R
Brigade Creek	3½	...	1
Mount Harriett	1	...	1
Dhani Khari	15	...	12

No survey or demarcation is at present necessary along the new Mount Harriett Reserve Boundary.

IV.—Forest Surveys.

4. The Taungya area of the year and the newly planted area under rubber (*Hevea braziliensis*) were surveyed.

Cost R3-3-8.

CHAPTER II.

MANAGEMENT OF STATE FORESTS.

I.—Regulation of Management.

5. The remaining compartment lines in the North Andaman were cleared afresh and demarcated during the year.

The heights and girths of 65 padouk trees standing on the northern end of Chatham Island in Port Cornwallis were measured during the year to form a sample plot in conformity with the proposals of the Working-Plan for the North Andaman.

The trees had suffered in many cases from storms and creepers, the latter have now all been cut back.

Sample Plots.

6. Twenty-two gurjan (*Dipterocarpus turbinatus*) ranging from 1 to 9 feet in girth were measured for the first time in 1911. The plot is on hilly

ground west north-west of the Wimberley Ganj Overseer's bungalow and in the Goplakabang reserve.

7. Messrs. Gillanders, Arbuthnot & Co. sent a representative to survey the forests in the North Andaman dealt with by the Working-Plan with a view to ascertaining facilities for extraction, supply of elephant fodder and water, etc., etc. As far as is known no offer has yet been made to Government for the lease of these forests.

II.—Communications and Buildings.

(a) *Roads and Bridges.*

8. *Wimberley Ganj Steam Tramway.*—The total length 6 miles with 36 masonry, 25 wooden bridges, and one corrugated iron culvert remains unaltered.

There are also 14 permanent sidings measuring 1,630 yards.

Twenty-eight bridges on the main line and on the trolly line have been repaired. The trolly line was raised during the year on old sleepers to protect the rails from damp and rust.

The line has worked well, no breaches or land-slips having occurred during the year, nor has resort been had to hand-trucking.

The locomotives have worked better than in former years owing to the excellent order in which the line has been maintained by Mr. Kelly, Extra Assistant Conservator of Forests, Wimberley Ganj.

Derailments are now rare, none having occurred in the last 6 months. Every truck is overhauled once a month, which has also contributed to the smooth running.

The ballast under the sleepers is now being broken to a smaller size as suggested by the Conservator of Forests, Pegu Circle, who also recommended the removal of the old iron sleepers which serve no useful purpose.

Two thousand six hundred and eighty-nine defective sleepers have been renewed and experiments are being made both in bridge work and with sleepers with the different species of Andaman woods to test their durability.

The maximum load carried over the line by one engine in one day was 25 cords of fuel.

A semi-permanent line (the trolly line above referred to) is maintained as an alternative to the main line.

Maintenance of the permanent line cost R1,940 excluding up-keep of locomotives as compared with R5,808 in 1909-1910.

9. Temporary lines were laid as follows :—

Locality.	Yards.	Remarks.
Wimberley Ganj	367	To clear depôt.
Kalatang	233	Fuel area.
Wimberley Ganj	700	Fuel area.
Kadakachang	1,464	For Mangrove bullies.
Total	2,764	

The temporary lines lifted were :—

Locality.	Length Yards.	Remarks.
Bindraban	2,667	No longer required.
Shoal Bay	2,946	
Wimberley Ganj	367	
Kadakachang	1,464	
Total	6,544	

There were 2·7 miles of temporary lines at the close of the year.

Locality.	Length Yards.	Remarks.
Kalatang	1,663	For Fuel area.
Wimberley Ganj	700	For Fuel area.
Kalatang	352	To 1910 Taungya.
Wimberley Ganj	1,683	To 1911 Taungya.
Goplakabang	413	To depôt.
Total	4,811	

Cost of construction, maintenance and lifting of these lines amounted to R1,544 against R2,466 the previous year.

(*b*) *Buildings.*

Permanent Buildings.

10. A shed for storing surplus tram line material at Bhusi Ghat on Chatham was the only permanent building erected. Cost R27.

A shed for protecting export timber awaiting shipment from the weather was erected on Chatham for R26. More sheds are urgently required.

Temporary Buildings.

Northern Sub-Division.

These comprise :—

A new kitchen for No. 5 barrack, Goplakabang, costing R27.
Huts of minor importance at Wimberley Ganj, costing R5.
Repairs cost R292.

Temporary buildings for the extraction camps in Baratang Island and Middle Andaman cost R556, and comprised quarters for Assistant Forest Officer and Foresters, Police Guard houses, convict barracks and Store Godowns.

Southern Sub-Division.

Temporary buildings of the same nature were erected as required at Chirya Tapu, Rangachang and Rutland Island and cost R330.

III.—Protection of Forests.

(*a*) *General Protection.*

11. Free and self-supporter residents were prosecuted in 5 cases in Unclassed Forest and 6 cases in Reserved Forest. There was no serious case during the year.

(*b*) *Protection from fire.*

12. One fire only occurred which burnt 10 acres of the Taungya of 1909. This spread from an adjoining fuel area burnt to promote natural regeneration of gurjan and crossed the fire line.

Protection of the plantations adjoining the tram line cost R29-1-3.

(*c*) *Protection from cattle.*

13. Ninety-eight cattle as compared with 20 in the previous year were impounded ; greater strictness has had to be exercised in this respect owing to the extension of the rubber plantation in the Goplakabang valley, from which, as the plantations, extend, all cattle will have to be excluded.

(*d*) *Protection against injuries from natural causes.*

14. The padouk weevil attacked the 1910 Taungya very severely, the damage being especially excessive in grassy areas. As usual the plants made great resistance and are now recovering.

IV.—SYLVICULTURE.

(*a*) *Natural regeneration.*

15. The natural regeneration in the padouk areas on Rutland was partially gone over and the young saplings freed from creepers and adventitious growth which soon commences to suppress them; it is most desirable to remove only sufficient of the young pole growth found growing over the padouk to enable the latter to get the light it requires which in the earlier stages is not excessive—otherwise the admission of too much light quickly induces a dense growth of creepers, shrubs and soft wooded species. This important work was as usual limited by lack of labour and shortage of supervising staff.

The old fellings in Baratang Island also shew abundant padouk advance growth which must be dealt with soon if any satisfactory result is to be obtained.

The natural reproduction in the Namuna Ghar reserve continues to make satisfactory progress—operations in this direction have now extended to padouk bearing areas near Anikhet, and further development should take place in other adjacent areas.

Cost during the year—

	R	a.	p.
Namuna Ghar	25	13	6
Anikhet „	78	14	9

(*b*) *Artificial Reproduction.*

(1) Mangrove sowings.

16. Ten acres were sown 6′×3′ in the Dhani Khari Reserve with Rhizophora mucronata and Conjugata.

Portion of the area sown in 1908-09 on very low ground died, but the remainder continued to do well.

(2) Padouk Plantation.

17. The Taungya of the year 115 acres in extent is on the border of the Mount Harriett Reserve and adjoins the plantation of 1903.

The general aspect is southern and elevation varies from 10 to 120 feet.

The burning took place on the 2nd April and sowing 6′×6′ was completed by 27th April, a week later than the previous year. A large portion of the area being under secondary growth rendered the burning less complete than usual, more especially where creepers were prevalent.

To provide against deficient germination the number of seeds at a stake was increased from 2 to 5 and about 20 lbs. of seed per acre used. On the 1st July the percentage of germination was 68, and blanks were then filled in.

Hill paddy was sown between the lines of padouk and at sufficient distance from the stakes to prevent the padouk being suppressed when the paddy attains its full height.

The actual cost of creation was R8-5-10 per acre.

Taungya of 1909-10.

Blanks were refilled at a cost of R355 and the weeding and harvesting of 67,278 lbs. paddy cost R973—thus the crop per acre was 480 lbs. as compared with 235 lbs. in 1908-09 Taungya.

When weeding the paddy, the mistake was made of uprooting the natural seedlings of trema and other soft wood species, whereby the growth of grass was favoured as against that of tree growth which was required to protect and

draw up the young padouk. This has been corrected in the weedings in the Taungya of 1910-11, the paddy was sown as noted in paragraph 17 above further away from the padouk, creepers only uprooted and woody growth merely cut back.

(c) *Operations for the improvement of the growing stock.*

18. The older plantations, *viz.*, 1903 to 1907, were cleaned once during the year of creepers and accessory growth when such was threatening the padouk. Greater attention was paid to the areas of 1908-09 and 1910 and the results shewed improvement, as special gangs under more intelligent petty officers were kept on this work.

The cost of upkeep of the plantations in the last 2 years is shewn below:—

Year.	Area.	Cost 1909-10	Number of clearings.	Cost 1910-11.	Number of clearings.
		₹		₹	
1903	13	...	...	17	1
1904	100	71	1	75	1
1905	102	99	1	116	2
1906	177	184	2	105	1
1907	200	230	2	124	1
1908	215	282	2	275	2
1909	225	361	2	329	3
1910	153	...	...	278	2

19. The following table shews the average growth of the stems in each plantation:—

Year.	Species.	Height.		Girth.		Remarks.
		1909-10.	1910-11.	1909-10.	1910-11.	
1883	Padouk	...	...	2′-6″	...	
1883	Teak	...	...	2′-5″	...	
1884	Padouk	...	...	2′-9″	...	
1885	Do.	...	...	2′-2″	...	
1886	Do.	...	...	2′-8″	...	
1887	Do.	...	...	1′-5″	...	
1887	Teak	...	...	2′-7″	...	
1889	Padouk	...	...	0′-9″	...	
1889	Teak	...	...	2′-9″	...	
1890	Padouk	...	...	1′-11″	...	
1890	Teak	...	..	2′-8″	...	
1903	Padouk	25	27	0′-10″	1′-1″	
1904	Do.	20	21	0′-9″	0′-11″	
1905	Do.	...	21	...	0′-10½″	
1906	Do.	15	17	0′-6″	0′-9″	
1907	Do.	10	15	0′-4″	0′-8″	
1908	Do.	8	13	0′-3″	0′-6″	
1909	Do.	3	8	0′-2″	0′-4″	
1910	Do.	...	3	...	0′-2″	

Twenty-six acres planted with pyinma and 12 acres with koko and pyinma on the higher slopes of the 1909 plantation have been pronounced a failure and deducted from the average of the 1909 plantation.

Similarly 25 acres have been written off the 1907 plantation.

Thinnings.

20. The mangrove plantations of 1898 and 1899 (in part) were thinned; every alternate line where they are distinct or every alternate stem where growth was irregular, which is infrequent, was cut out. Total area was 200 acres and cost R305-5-0.

This operation yielded 34,430 small posts which are being used for the depôt fences at Haddo and 316½ cords of fuel. As about 200 of these posts go to a cord of fuel, the estimated outturn of fuel was 172 cords.

Fifty acres of the 1899 planting still remains to be treated.

No thinnings were required in any of the padouk plantations.

Rubber plantation.

21. During the year the small experimental area under rubber (*Hevea braziliensis*) has been carefully attended to by Mr. Kelly and may now be termed a regular plantation which at the end of the year contained the following plants:—

Year of sowing.	Acreage.	Plants.	Remarks.
1904-1905	42	1,689	
1908-1909	1	1	
1910-1911	70	7,000	

22. *Plantation of 1904-05.*—Thorough cultivation commenced in July and was completed in October—a few of the trees flowered for the first time—20 seeds so obtained will be sown separately.

One hundred cuttings taken as an experiment failed with few exceptions.

Monthly measurements of 17 stems began in August 1910—no girth increment was shewn during December 1910, January, February, March 1911, in fact until the new flush of leaves appeared at the beginning of April. The result of cultivation then manifested itself in increased branching and the trees began to assume a more normal shape.

The average increment of 4·2 inches at 3 feet from the ground for 8 active months of the period from August 1910 to August 1911 is believed to be above the average obtained in Southern India. This area is on a slope with a Western aspect and the soil a clayey loam.

23. *Plantation of 1908-09.*—The 166 plants noted in the tabular statement in paragraph 21 were originally sown in the 1904-05 area. To simplify cultivation they were lifted and planted in a compact block during the year after being cut down to 3 feet.

24. *Plantation of 1910-11.*—A large nursery was laid out close to the Goplakabang stream and 2,241 local seeds and 16,530 from the Government plantation at Mergui were sown 8″×8″ in raised beds at the end of September 1910. The results of germination were 285 plants from local and 6,726 from the Burma seeds, in the latter case below the average expected.

The seeds nearly all sprouted within a week. The plants stood the long draught of January, February and March well, and received no overhead shade though the seed beds were covered with a thin layer of grass. They were 6 to 7 feet high when transplanted in June into the low ground (abandoned Tea Garden) on either side of the Wimberley Ganj Kalatang Road.

The soil here is a sandy loam for the first 6½ feet and from 6½ to 9 feet conglomerate clay. The water level is 6′ to 7′ below the surface in the rains and 12 feet in the dry weather.

The plants were put out in holes 2′ diameter and 2′ deep. Some were cut back to the hard wood and some were planted after merely stripping off the leaves. Failures occurred in only 25 cases, and the plants commenced putting out new leaves after a month.

The planting distance adopted is 22′ triangular or 104 plants per acre.

Three hundred and sixty-five cotton plants have been sown between the rubber as an experiment.

25. Details of expenditure on the rubber plantations during the year :—

Particulars.	Area of 1904-05 42 acres. Amount.	Area of 1910-11 70 acres. Amount.	Remarks.
	₹ a. p.	₹ a. p.	
Clearing jungle	461 12 6	101 1 3	
Baskets	8 12 5	.....	
Holing and Stakings	20 9 5	94 10 1	
Planting	85 11 4	89 12 0	
Manuring	119 4 10	.....	
Weeding and hoeing	157 0 3	.....	
Fencing	28 3 10	.....	
Drainage	50 8 7	.....	
Roads	112 9 10	.....	
Seeds	.....	84 12 2	
Nursery	.....	206 14 9	
Watchman	61 10 4	.....	
Watering cans and mugs	.....	11 12 0	
Culture	5 4 0	.....	
Total	1,111 7 4	588 14 3	
Cost per acre	27 12 7	8 6 7	

(*d*) *Experiments.*

26. *Afzelia palambanica*, 661, and *Swietenea Mahogani*, 109 plants, have suffered no diminution in number during the year. The jungle growth in which they were standing was cut back during the year; the plants are now well established and making good progress.

An experiment was made to test the germinating powers of padouk seed; 228 seeds collected in March 1911 were sown this year and 60 per cent. germinated.

Two padouk logs were barked at Haddo depôt and treated with a new antiseptic with a view to test its capabilities as a protection against the small boring beetles. The logs were bored in a few places, and further experiments are being made with other species.

V.—Exploitation.

(*a*) *System of Management.*

(i) Major Forest Produce.

Timber.

27. Rough hewn padouk squares to the extent of 1,637 tons were sold to Messrs. Gillanders, Arbuthnot & Co. and Mr. John Hagenbeck between July and December 1910, when a new system of putting up the outturn of 12 months for tender was initiated.

Three thousand tons good coloured and 1,000 tons of off coloured squares were advertised, and the tenders of Messrs. Gillanders, Arbuthnot and Co. were accepted for the good coloured and for 700 tons of off coloured squares, the remainder of the latter being allotted to the Burma State Railways.

Timber was extracted from Rutland Island, Baratang Island and from Middle Andaman during the year. The padouk areas on Rutland have now all been gone over with the exception of a small patch at the south-east corner of the island, but as noted in last year's report isolated trees of large size are still found in places.

These areas as well as the old fellings in Baratang which also still contain sound timber will be gone over again as soon as practicable, *i.e.*, when the calm weather sets in.

Saw mill timber has been supplied as required from the above noted localities, while gurjan for export has been chiefly cut at Chiriya Tapu and Rutland Island; of the last named timber 2,000 tons of scantlings were advertised along with the padouk and allotted to Messrs. Gillanders, Arbuthnot & Co. As far as is known this is about the maximum quantity the saw mill can at present deal with and is far below the demand from Calcutta and Madras.

Fuel.

28. Six thousand five hundred and sixty-four cords of 4 feet fuel were supplied to the Settlement from the Mount Harriett and Goplakabang reserves, about 260 acres being gone over.

All gurjan trees of less than 7 feet in girth are now left as seed bearers.

One hundred and ninety nine cords of mangrove fuel were used in the locomotives, and 450 cords of 2′ fuel supplied to the Settlement, 325 being for the launch "Mildred."

The steam launches "Eileen" and "Ross" and the S. S. "Rosamond" used 2,181 cords in addition, most of which was cut at the extraction camps.

29. The Settlement authorities also cut fuel from the following localities free of charge:—

Name of Forests.	Cords.	Remarks.
Hope Town Reserve	80	For Hope Town Convict Barracks.
Port Mouat	78	„ Port Mouat „ „
Goplakabang Reserve	56	„ Bajajagda „ „
Namuna Ghar	41	„ Namuna Ghar Convict Barracks.
Shore Point	22	For Shore Point Convict Barracks.
Kalatang Unreserved	200	„ Tea Garden.
Rangachang Unreserved	102	„ Pahargaon Convict Barracks.
Navy Bay Unreserved	60	„ Navy Bay „ „
North Bay „	26	„ North Bay „ „
TOTAL .	665	

The total receipts on account of fuel were R27,797.

(ii) Minor Forest Produce.

30. Mangrove bark 104,555 lbs. in all was supplied to the Phœnix Bay tannery, to the Settlement for tanning fishing nets and to local residents—total value R735.

The Department also extracted for sale bamboos, canes and other minor produce to the value of R43.

The Settlement extracts its own minor produce, but since the end of the year proposals have been put forward for this supply to be undertaken by the Forest Department so far as canes are concerned. The reason for this change

of procedure is that canes of certain qualities are now difficult to obtain near the Settlement. If the Settlement authorities would make estimates of their requirements in all kinds of minor produce and hand the whole supply over to the Forest Department, there is a probability that labour would be economised.

(*b*) *Agency of Exploitation.*

(i) Departmental Agency.

31. There is no change to record, all exploitation being carried out by the Forest Department or the Settlement with the exception of the small quantity of hand sawing undertaken by local residents for the Calcutta and Madras trade.

(1) Transport by land.

32. Appendix No. 1 gives a detailed list of the elephants in the Andamans and the number of days they worked; in the year under review there have again been no casualties and with the exception of a few of the older animals all have kept in good condition. The elephants of the Southern sub-division working in the gurjan forests have picked up their own living without any difficulty, but in the dry padouk forests of the Middle Andaman care has to be taken to find suitable grazing grounds along the creeks or in isolated patches of gurjan forest, and elephants cannot in the hot weather be kept for any great length of time in one spot without falling off in condition.

Eight new elephants of good type, the purchase of which was kindly arranged for by the Conservator of Forests, Pegu Circle, arrived in Port Blair at the end of the year, and have been put to light work whilst they are getting accustomed to their new surroundings.

(2) Transport by water.

33. Till the S. S. "Rosamond" arrived in Port Blair in November last the Forest Department steam launch "Eileen" and steam launch "Ross" lent by the Settlement brought the timber from the southern camps into Port Blair, while timber from Baratang was towed by the same agency to Shoal Bay and thence came over the Wimberley Ganj tram line to headquarters.

Since her arrival the "Rosamond" has been able to deal with all the timber extracted and has brought in 9,000 tons of timber in 58 trips and has proved herself very well suited for her work.

The following table shows the timber brought in direct by each launch, as well as that sent over the tramway:—

	Tons.
By steam launch "Eileen"	2,215
„ „ „ "Ross"	450
„ „ „ "Belle"	466
„ „ Tramway	1,359
TOTAL	4,488

(ii) Purchasers.

34. Owing to a decreased demand from Madras there was a falling off in the revenue, R6,175 derived from the sale of standing trees to local purchasers, as compared with R7,629 in 1909-10.

Minor produce was sold at low rates to the value of R494 as compared with R501 in the previous year and comprised the following:—

			R
Thatching leaves	Bdls.	6,731	432
Bamboos	No.	88,550	55
Canes	„	11,125	7
TOTAL			494

The charge of the Revenue Range was transferred to the Assistant Forest Officer, Wimberley Ganj, towards the end of the year.

(iii) Rights and Privileges.

35. There are no rights. During the year the villagers in the vicinity of the Mount Harriett and Goplakabang reserves were allowed the privilege of removing forest produce for *bonâ fide* domestic use from these reserves.

The figures below which are included in the tabular statement of free grants give the amount extracted and seem to shew that the clamour for this privilege was merely a desire for forbidden produce.

Name of village.	Reserve.	Leaves.	Posts.	Poles.	Bamboos.	Canes.
Wimberley Ganj .	Mount Harriett .	9,400	86	829	2,820	65
Kadakachang . .	Goplakabang .	...	8	...	...	...
	Total .	9,400	94	829	2,820	65

(iv) Free Grants.

36. Free and self-supporter residents removed bamboos, canes, thatching leaves and small posts from reserved and unreserved forests to the value of R6,761.

The following free grants were made to the Settlement, in addition to the minor produce extracted for petty buildings :—

Fuel for tea garden . . . . . 200 cords.
Fuel for Hope Town, Bajajagda, &c., barracks . . . 465 „

as detailed in paragraph No. 29.

Free samples of Andaman timber were sent to the following firms and private persons, the value being R707 :—

Mr. John Hagenbeck, Colombo.
Messrs. Bird & Co., Calcutta.
Director of the Forestry Court, United Provinces Exhibition, Allahabad.
Mr. Strickland Sheomoga, Mysore.
Messrs. Shaw, Wallace & Co., Calcutta.
Babu S. P. Gupta, Calcutta.

37. The following table shows the quantity and value of forest produce removed from the forests without payment by the district officers and Public :—

—	Timber.		Fuel.		Bamboos.		Other minor produce.	Total value.
	Cubic feet.	Value.	Cubic feet.	Value.	Number.	Value.	Value.	
		R		R		R	R	R
Right Holders . .	...	...	...	...	...	...	...	...
Free Grantees . . .	91,684	7,179	3,48,120	9,018	8,16,987	511	3,244	19,952
Grants at reduced rates .	...	...	...	...	...	...	...	...
Total .	91,684	7,179	3,48,120	9,018	8,16,987	511	3,244	19,952

(c) Outturn and Sources of Forest Produce.

38. The following table compares the outturn of the year classified according to agency of exploitation, and the kind of produce extracted, with the figures of 1909-10 :—

		Timber.	Fuel.	Bamboos.	Minor Produce.
		c. ft.	c. ft.	No.	₹
Government Forest Department	1910-11	753,513	692,280	21,086	793
	1909-10	374,378	675,980	22,915	716
Purchasers, local	1910-11	38,478	17,400	88,550	439
	1909-10	47,514	33,600	96,375	425
Free Grantees	1910-11	35,008	278,880	464,800	2,962
	1909-10	33,720	269,760	449,600	2,866
District Officers	1910-11	56,676	69,240	352,187	282
	1909-10	47,609	123,617	624,012	4,665
TOTAL	1910-11	883,675	1,057,800	926,623	4,476
	1909-10	503,221	1,102,957	1,192,902	8,672

The largely increased outturn of 15,000 tons in the log was mainly attributable to the increased demand for gurjan and didu throughout the year and to the padouk contracts under the new tenders for 1911 ; 4,600 logs were in depôt at the close of the year.

One thousand and three hundred tons more gurjan were extracted than in the previous year; an even larger amount could have been extracted if sufficient sawing machinery had been available to deal with it.

39. *Export of timber.*—The following statement shows the species, number and volume of logs exported during the year under report compared with those exported during 1909-10 :—

	1910-11.				1909-10.			
	Logs.	Squares.	Scantlings.	Total.	Logs.	Squares.	Scantlings.	Total.
	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.	C. ft.
Padouk	27,305	150,885	2,536	180,726	7,212	92,252	1,223	100,687
Pyinma	...	4,596	...	4,596	1,671	1,669	...	3,340
Gurjan	...	16,210	106,195	122,405	...	...	111,865	111,865
Chuglam white	...	1,312	1,619	2,931	...	...	579	579
Didu	...	...	15,101	15,101	...	321	4,523	4,844
Toungpeing	181	261	626	1,068	...	...	537	537
Thitnim	54	...	...	54	255	...	...	255
Marble wood	...	409	...	409	...	...	...	...
Chuglam black	...	311	...	311	...	...	...	...
Bombway red	110	...	...	110	...	...	...	...
Koko	...	515	...	515	...	...	...	...
Lalchini	...	1,600	200	1,800	...	...	...	...
TOTAL	27,650	176,099	126,277	330,026	9,138	94,242	118,727	222,17

The above statement shows a noticeable increase in the export of padouk, gurjan and didu.

40. The following shows the outturn of timber supplied to the saw mill in the log with the corresponding outturn received from the saw mill compared with the results of working in 1909-10.

Year.	Timber sent to saw mill.		Timber received from saw mill.	Percentage of waste.
	No. of logs.	Volume.		
		C. ft.	C. ft.	
1910-11 . . .	6,385	356,046	234,307	34
1909-10 . . .	7,923	402,923	231,599	43

The decrease in wastage by 9 per cent. is due to the larger quantity of gurjan and didu converted, while that of padouk decreased. The rates for timber sawing R9 per ton for all kinds of timber remained unchanged.

Six hundred tons more gurjan and 680 tons less padouk were sent to the mill than in the previous year.

Much more sawing machinery could have been utilised during the year, and until expansion in this direction is effected, it will be impossible to deal with the large quantity of hollow padouk lying in the forests—as this can only be exported in the form of sawn timber.

41. The timber from the Chatham saw mill was disposed of as follows:—

To whom supplied.	Padouk.	Others.	Total.
	Tons.	Tons.	Tons.
Settlement	230	277	507
Marine Department	41	69	110
Tea gardens	...	14	14
Commissariat Department	21	17	38
Messrs. Gillanders, Arbuthnot & Co., Calcutta .	7	1,541	1,548
„ Kedarnath Ghosh & Co., „ .	...	711	711
„ Ghosh, Sircar & Co., „ .	...	30	30
„ Shaw, Wallace & Co., „ .	33	124	157
„ Bird & Co., „ .	...	372	372
Used departmentally	68	116	184
Superintendent, Viceregal Estate, Calcutta .	1	...	1
„ Alipore Jail, „ .	11	13	24
Deputy Conservator of Forests, Sunderbans Division.	...	2	2
Sent to Calcutta Depôt	...	285	285
„ Rangoon „	470	98	568
Written-off	4	328	332
Free grants	1	2	3
Locally	25	164	189
Found short on taking stock	...	221	221
Loss in reconversion	20	6	26
Total .	932	4,390	5,322
Total for 1909-10 .	760	2,876	3,636

The increase was due to the sale of more sawn timber in the Calcutta and Rangoon markets; in order to reduce the stock of timber kept to season for Settlement purposes, scantlings were sent for sale by auction in Rangoon.

42. The number of trees felled and the volume of timber extracted compares with the figures of last year as follows:—

Year.	Number of trees felled.			Volume of timber extracted.
	Padouk.	Other.	Total.	
				C. ft. Tons.
1910-11	3,041	2,734	5,775	753,513=15,070
1909-10	1,366	2,008	3,374	374,378= 7,488

This shows an increase of 7,582 tons of timber over the outturn of last year. This is the highest figure on record in this division.

43. *Removal of produce by purchasers.*—The following statement compares the quantities and values of the produce removed during the year under report as compared with 1909-10:—

	Year 1910-11.		Year 1909-10.	
		R		R
Timber . . . . . Tons	770	6,173	950	7,629
Fuel . . . . . C. ft.	17,400	36	33,600	72
Bamboos . . . . . No.	88,550	55	96,375	60
Canes . . . . . „	11,125	7	9,375	6
Canes with roots . . . . Mds.	...	...	28	14
Thatching leaves . . . . Bdls.	6,731	432	6,711	421
Total value .	...	6,703	...	8,202

CHAPTER III.

Financial Results.

44. The revenue and expenditure of the year under report compares with the figures of the year 1909-10 and the average of the last five years as follows:—

Year.	Revenue.	Expenditure.	Surplus.
	R	R	R
1910-11	4,03,806	2,48,233	1,55,573
1909-10	3,32,495	2,17,267	1,15,228
Average of last 5 years . . .	3,63,309	2,25,857	1,37,452

The increase of revenue R71,311 was due to (*a*) more sales of timber. (*b*) higher prices obtained by advertising the timber for tender.

Expenditure increased by R30,966.

The 8 elephants delivered in June cost R38,168, landed in Port Blair.

45. The following statement compares the expenditure for 1910-11 with that of 1909-10, giving also the percentage of the total expenditure :—

	1910-11.		1909-10.	
	Amount.	Percentage of total expenditure.	Amount.	Percentage of total expenditure.
	R		R	
1. (1. Exploitation	72,990	29	48,230	22
1. (2. "Rosamond"	15,933	7	58,794	27
1. (3. Sawing charges	42,476	17	41,075	19
2. Purchase and upkeep of live stock, tools, etc.	61,407	25	20,983	10
3. Roads, tramways and buildings	3,203	1	5,991	3
4. Organisation and improvement	5,948	2	4,468	2
5. Miscellaneous	1,204	1	184	...
6. Establishment	45,072	18	37,542	17

(1) Expenditure on exploitation showed an increase of roughly 50 per cent. on the figures for 1909-10, while the amount of timber extracted was 100 per cent. over the figures of the preceding year. This was in part due to increased extraction of gurjan and didu timber, and more could have been extracted had the existence of sufficient sawing machinery allowed all the enquiries for these timbers to be attended to.

(2) Expenditure on actual feed and keep of elephants and buffaloes fell by R5,079. While the price of grain is now 57 lbs. per rupee instead of 21 lbs. per rupee, the price paid for imported paddy, the elephants did more work and consequently got more paddy. With the exception of a few tuskers the animals were let loose at night to pick up their own living.

(3) Expenditure on buildings fell by R968, the majority constructed being temporary buildings in the camps.

Expenditure on the permanent tram-lines showed a decrease of 50 per cent., due to more economical working and to the absence of any extraordinary charges as in the previous year.

(4) Expenditure on plantations increased chiefly owing to the development of the rubber plantation.

(6) The appointment of a 3rd Extra Assistant Conservator of Forests and the salaries of the subordinate staff appointed for the S.S. "Rosamond" account for the increase under this head.

CHAPTER IV.

ADMINISTRATION.

46. Mr. C. G. Rogers, Conservator of Forests, Pegu Circle, Burma, inspected the head office and visited the Wimberley Ganj sub-division, and all the extraction camps in April 1911.

The writer was in charge of the division throughout the year.

Mr. W. H. Miller was appointed as Extra Assistant Conservator of Forests, 3rd grade, on probation on 21st July 1910, and has chiefly been employed in the extraction camps.

Mr. B. P. Kelly, Extra Assistant Conservator of Forests, has again worked to my entire satisfaction and has, it is hoped, laid the foundation of a promising source of revenue to the Settlement in the para rubber plantations at Goplakabang, which he has tended with great care.

Mr. M. C. C. Bonig, Extra Assistant Conservator of Forests, who passed in Burmese Higher Standard and in Procedure and Accounts during the year, has improved the work of the convicts employed in the extraction camps to a marked degree and has also been most successful in his treatment of the elephants—he could ill be spared from this division.

Mr. C. Alfred has worked as well as before and is a reliable and conscientious officer who deserves to get on—he has greatly improved his knowledge of elephant treatment and timber extraction.

Mr C. Parkinson, Forest Ranger, remained at the Forest College during the year and holds a very high position on the list.

Head Clerk Khuda Baksh managed the head office most satisfactorily, and the clerks under him worked well.

CHAPTER V.

General.

47. The climbing bamboo (*Dinochloa Andamanica*) was in flower for the first time recorded during Mr. Rogers' visit of inspection. Flowers and seeds were sent to Burma and to the Sibpur Botanical Garden respectively.

48. Five pounds samples of the bark of both young and old stems of the following species of mangrove were sent to the Imperial Research Institute, Dehra Dun, for testing:—

1. Rhizophora mucronata.
2. Rhizophora conjugata.
3. Brugiera gymnorhiza.
4. Ceriops candalliana.

49. The steam launch "Eileen" underwent thorough overhaul during the year and was put in good order by the Marine Department.

H. A. FARRINGTON,
Deputy Conservator of Forests,
In charge Andamans Division.

Port Blair;
The 28th September 1911.

Annual Form No. 51.

Area of Reserved and Protected Forests, unclassed State Forests, and Waste lands for the Forest year 1910-11.

Division.	Range.	Civil District or Territory.	Name of Forest.	Area on 1st July 1910. Acres.	Area on 1st July 1910. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 30th June 1911. Acres.	Area on 30th June 1911. Equivalent in square miles.	Number and date of Notification of addition or transfer, etc.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12
			Reserved Forests.								
Andamans.	...	Andamans.	1. Navy Bay Teak Plantation Reserve.	16	0·02	...	...	16	0·02		
			2. Ali Musjid Reserve.	14,916	23·00	...	...	14,916	23·00		
			3. Mount Harriett Reserve.	28,800	45·00	...	3,200*	25,600	40·00	Chief Commissioner and Supeirintendent, Port Blair's Notification No. 9, dated 25th August 1910.	*Disforested.
			4. Brigade Creek Reserve.	2,344	3·66	...	...	2,344	3·66		These forests have been simply declared "Reserved Forests" in the local Notification Gazette in accordance with the policy enunciated by the Inspector General of Forests in his suggestions of 1891.
			5. Dhanikhari Reserve.	8,045	12·57	...	14	8,031	12·57		
			6. Hope Town Reserve.	415	0·65	...	...	415	0·65		
			7. Shoal Bay Reserve.	9,728	15·20	...	...	9,728	15·20		
			8. Port Meadows Reserve	12,160	19·00	...	...	12,160	19·00		
			9. Middle Straits Reserve.	23,411	36·58	...	...	23,411	36·58		
			10. Goplakabang Reserve.	2,085	3·26	...	...	2,085	3·26		The Indian Forest Act is not in force in the Andamans.
			11. Namunaghar Reserve.	1,275	2·00	...	...	1,275	2·00		
			12. Minnie Bay Reserve	231	0·36	...	...	231	0·36		
				103,426	161·00	...	3,214	100,212	156·00		
			Protected Forests.								
			Nil								
			Unclassed State Forests and Waste lands.								
				1,146,174	1,791	3,200†	68‡	1,149,306	1,796		† 3,200 acres were transferred from Reserved Forests.
											‡ 68 acres were cleared for cultivation by the Settlement.
			Total	...	1,952	...	...	...	1,952		

Form No. 52.

Statement showing the Progress made in, and the Expenditure incurred on, Forest Settlements during 1910-11.

Name of Forest Division.	Name of Civil District or Territory.	Area already settled at commencement of the year.	AREAS FINALLY SETTLED DURING THE YEAR.						AREAS UNDERGOING SETTLEMENT.						Remarks.
			Number and date of Government order according final sanction to the settlement.	Name of Forest settled.	Area, in square miles.	Expenditure incurred during the year on areas finally settled.		Entire cost per square mile of area finally settled during the year.	At commencement of the year.		Taken in hand during the year.		Expenditure incurred during the year on areas undergoing settlement.		
						In Forest accounts.	In other accounts.		Name of tract.	Area in square miles.	Name of tract.	Area in square miles.	In Forest accounts.	In other accounts.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		Sq. Ms.				R	R						R	R	
Andamans.	Andamans.	161	...	...	...	...	...	...	...	...	...	...	...	...	Of the Mount Harriett Reserve 5 square miles were disforested with effect from the 25th August 1910.

Form

Record of Demarcation and Maintenance

Division.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at close of the year.	Length of boundaries still to be demarcated at close of the year.
1	2	3	4	5	6
	Miles.	Miles.	Miles.	Miles.	Miles.
Andamans	...	19½	55½	75	6

N. B.—Boundaries include, besides the outer perimeter, the limits of enclosures of private or other lands with in

Form

Statement of Fo areas surveyed and

Division.	Area surveyed and under survey during															
	Special surveys—Maps on 4" scale or over, by Survey of India Department or Forest Survey Branch.								Ordinary included in District Surveys.							
	With interior details.					Boundary surveys.			With interior details.					Boundary surveys.		
	With details of growing stock.		Without details of growing stock.		Total cost.	Previous.	Of the year.	Total cost.	With details of growing stock.		Without details of growing stock.		Total cost.	Previous.	Of the year.	Total cost.
	Previous.	Of the year.	Previous.	Of the year.					Previous.	Of the year.	Previous.	Of the year.				
1	2	3	4		6	7	8	9	10	11	12	13	14	15	16	17
	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. M	Sq. Ms.	R
Andamans .	...	...	166	...	...	...	...	...	248	...	1,052	...	...	...	...	...

Form

Progress made in Working-

Division.	Areas for which Working-Plans have been sanctioned by Local Government.		Areas for which Working-Plans are being compiled.	
	At commencement of the year.	During the year.	At commencement of the year.	Taken in hand during the year.
1	2	3	4	5
	Sq. ms.	Sq. ms.	Sq. ms.	Sq. ms.
Andamans	317	...	...	...

No. 53.

of Boundaries, 1910-11.

Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year.		Remarks.
		On new work.	On repairs.	
7	8	9	10	11
Miles.	Miles.	R	R	
116	197	...	31*	* Includes R18 charged under A-VIII (*a*), incurred on cleaning compartment lines in North Andamans.

the forests, but not the limits of sub-divisions, such as compartments and coupes.

No. 54.

under survey during the year 1910-11.

The year 1910-11.													
Chain and compass or other surveys by local officers.								Areas remaining to be taken under survey.	Total Forest area at end of the year, as per Form No. 51.	Cost.			Remarks.
With interior details.					Boundary surveys.								
4-inch or over.		Under 4-inch.		Total cost.									
Previous.	Of the year.	Previous.	Of the year.		Previous.	Of the year.	Total cost.			Previous.	Of the year.	Entire cost of all surveys to end of the year.	
18	19	20	21	22	23	24	25	26	27	28	29	30	31
Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	R	R	
...	...	...	...	...	...	...	...	...	1,952	(*a*)	...	...	(*a*) Not accurately known. The cost of the Andaman Survey is not known.

No. 55.

Plans, 1910-11.

Areas for which Working-Plans have still to be taken in hand.	Total Forest area, as in Form No. 51.	Entire cost per square mile of Working-Plans completed.	Remarks.
6	7	8	9
Sq. ms.	Sq. ms.	R	Reserved Forests . . 156 Square miles. Unclassed State Forests . 1,796 "
1,635	1,952	...	

Form

Communications and

Division.	NEW WORK UNDERTAKEN DURING THE YEAR.					
	Buildings.		Roads and Paths			Total expended on new work.
	Description of Building.	Expenditure incurred.	Road or Path and object of the same.	Length of Road or Path.	Expenditure incurred.	
1	2	3	4	5	6	7
		R		Miles.	R	R
Andamans .	Constructing three subordinates' quarters.	84	...	...	...	900
	Constructing Assistant Forest Officer's quarters at Bagalonta.	48				
	Constructing temporary huts, etc.	134				
	Constructing two sheds on Chatham.	53				
	Constructing two tool godowns.	40				
	Constructing three police guard houses.	54				
	Constructing one officer's inspection hut.	11				
	Constructing permanent and temporary convict barracks.	476				
	Total .	900		...	...	900

Form

Register of breaches of Forest

Forest Division.	Cases pending from 1909-10.	New Cases of the Year.				
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Total new Cases of the year.
1	2	3	4	5	6	7
Andamans . .	...	...	11	...	...	11
Total .	...	...	...	...	...	...

No. 56.

Buildings, 1910-1911.

REPAIRS EXECUTED DURING THE YEAR.						
BUILDINGS.		ROADS AND PATHS.			Total expended on repairs.	REMARKS.
Nature of Repairs.	Expenditure incurred.	Nature of Repairs.	Length repaired.	Expenditure incurred.		
8	9	10	11	12	13	14
	R		Miles.	R	R	
Repairs to subordinate's quarters.	17	Repairs to steam tram road.	...	1,940	2,303	
Repairs to permanent and temporary convict barracks.	346					
	363		...	1,940	2,30	

No. 57

Rules during 1910-1911.

Total Cases.	DISPOSED OF DURING THE YEAR						Cases pending at close of year.
	CONVICTIONS.		ACQUITTALS.		TOTAL.		
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
8	9	10	11	12	13	14	15
11	11	29	...	...	11	29	
...	...	...	...	...	...	...	

132865

Form

Area closed and open to

Division.	AREA, IN	
	Closed to all animals.	
	Whole year.	Part of year.
1	2	3
Andamans	156	*Reserved* ... *Protected* *Ni* *Unclassed* ... ...

Form

Artificial reproduction

Division.	Kind of Plantation.	Area in acres.			
		On 1st July 1910.	Added during the year.	Excluded during the year.	Area on 30th June 1911.
1	2	3	4	5	6
Regular— Andamans	Mahogany (Namunaghar)	1	..	(*e*) 1	...
	Padauk (Goplakabang 1883)	4	...	...	4
	Do. (Do. 1884)	5	...	...	5
	Do. (Do. 1885)	16	...	...	16
	Do. (Do. 1886)	20	...	...	20
	Mangrove (Brigade Creek)	442	...	...	442
	Do. (Dhanikhari)	243	...	...	243
	Para rubber (Namunaghar)	1	...	(*f*) $\frac{9}{10}$	$\frac{1}{10}$
	Do. (Goplakabang)	26	87	...	113
	Afzelia and Mahogany (Goplakabang).	12	...	...	12
	Total regular plantation	770	87	$1\frac{9}{10}$	$855\frac{1}{10}$
Taungya	Padouk	(*c*)1,248	115	(*d*) 63	1,300
	Total Taungya plantation	1,248	115	63	1,300
Cultural operations.	Cleaning advanced growth in Namunaghar Reserve and Rutland.	5	...	...	5
	Total cultural operations	5	...	...	5

Note.—Up-keep includes cleanings, weedings, thinnings, filling up blanks, etc. Cultural operations are

No. 59.

grazing during 1910-11.

SQUARE MILES.

Closed to browsers (camels, goats or sheep).		Open to all animals.	Total area.
Whole year.	Part of year.	Whole year.	
4	5	6	7
Forests.			
...	...	...	156
Forests.			
l.			
State Forests.			
...	...	1,796	1,796

No. 61.

for forest year 1910-11.

Expenditure during the year.		Total Expenditure from commencement.		Revenue during the year.	Total revenue from date of creation of plantation.	Remarks.
Creation.	Up-keep.	Creation.	Up-keep.			
7	8	9	10	11	12	13
R	R	R	R	R	R	
...	...	Not known.				(*e*) Abandoned.
...	...	Do.				
...	...	Do.				
...	...	Do.				
...	...	Do.				
...	312	Do.				
...	23	Do.				
...	...	18	70			(*f*) Recomputation.
(*a*) 423	(*b*) 1,098	663	2,773			(*a*) R166 paid after the close of the year not included.
...	16	79	188			(*b*) Does not include R49-13-10 paid after close of the year, and includes R36-3-10 paid for 1909-10.
423	1,449	760	3,031			
1,877	1,882	18,722	14,705			(*c*) Correction of clerical error.
						(*d*) 38 acres includes 26 acres of Pyinma and 12 acres of Pyinma and Koko that have failed owing to high altitude.
1,877	1,882	18,722	14,705			
...	280	...	332			25 acres padouk that have failed owing to high altitude.
...	280	...	332			

de fined in the memorandum appended to Circular No. 10-F., dated the 5th August 1904.

Form

Outturn (in cubic feet, solid) of Timber and Fuel

Division.	Timber in the rough; Logs.					Timber in the rough; Poles.					Sawn or square Timber.				
	Government.	Purchasers.	Free grantees.	District officers.	Total.	Government.	Purchasers.	Free grantees.	District officers.	Total.	Government.	Purchasers.	Free grantees.	District officers.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.
I.—Reserved															
Andamans	184,515	...	30	...	184,545	5,940	40	17,430*	26,023	49	29,862	...	...	...	29,862
Total	184,515	...	30	...	184,545	5,940	40	17,430	26,023	49,433	29,862	...	...	...	29,862
II.—Protected															
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
III.—Unclassed															
	355,761	...	118	...	355,879	17,440	105	17,430*	30,653	65,628	159,995‡	38,333§	...	...	198,328
Total	355,761	...	118	...	355,879	17,440	105	17,430	30,653	65,628	159,995	38,333	...	...	198,328
IV.—Leased															
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL	540,276	...	148	...	540,424	23,380	145	34,860	56,676	115,061	189,857	38,333	...	...	228,190

Charcoal should be shown by its equivalent in fuel, the quantity of
In the "Remarks" column of this form it should be shown which of the figures entered in it are *actuals*

No. 62.

during the Forest year 1910-1911 and Agency of Exploitation.

Miscellaneous.					Fuel.						
Government.	Purchasers.	Free grantees.	District officers.	Total.	Government.	Purchasers.	Free grantees.	District officers.	Total.	Total outturn.	Remarks.
17	18	19	20	21	22	23	24	25	26	27	28
c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	
Forests.											
...	...	...	...	...	539,560	..	139,440†	26,851	705,851	969,691	*An estimate based on number of free grantees huts, 10 bullies = 5 cubic feet, 2 posts = 10 cubic feet, are allowed for each house. †There are 12,324 house-holders, and quantity of fuel removed per house is estimated at 1½ cords per annum. 1 cord = 80 cubic feet.
...	...	...	...	....	539,560	...	139,440	26,851	705,851	969,691	
Forests. Nil.											
...	...	...	...	...	..	...	...	...	...	...	
State Forests.											
...	...	...	...	...	152,720	17,400	139,440†	42,389	351,949	971,784	‡Logs squared with arc. §Actual.
...	...	...	...	...	152,720	17,400	139,440	42,389	351,949	971,784	
Forests. Nil.											
...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	692,280	17,400	278,880	69,240	1,057,800	1,941,475	

*wood consumed in producing it being entered in cubic feet solid.
§and which are only *estimates*, it being also noted in the latter case how the figures have been arrived at.

Annual Form No. 63—[*Prescribed.*]

Outturn of Minor Forest Produce during the year 1910-11.

Description of Produce.	PRODUCE REMOVED OR UTILIZED.										Remarks.
	By Government Agency.		By Purchasers.		By Free Grantees.		By District officers.		Total.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
1	2	3	4	5	6	7	8	9	10	11	12
		R		R		R		R		R	
					I.—Reserved Forests.						
Bamboos . . No.	17,786	11	66,150	41	232,400	145	68,185	43	384,521	240	The entries in columns 6 and 7 are estimates based upon the following data :— 2,324 self-supporters and free residents' houses, each of which is allowed— 200 bamboos, 40 canes, 20 bdles. thatch } annually. All the other figures are actual.
Canes . . „	6,699	4	10,895	7	46,480	29	973	1	65,047	41	
„ with roots „	100	...	...	...	...	...	...	...	100	...	
Thatching leaves . Bdles.	421	26	5,181	324	23,240	1,452	1,516	95	30,358	1,897	
Bark . . . lbs.	105,125	739	...	...	...	...	...	...	105,125	739	
Total .	...	780	...	372	...	1,626	...	139	...	2,917	
					II.—Protected Forests.						
					Nil.						
					III.—Unclassed State Forests.						
Bamboos . . No.	3,300	2	22,400	14	232,400	145	284,002	178	542,102	339	
Canes . . „	25,095	16	230	...	46,480	29	209,457	131	281,262	176	
Canes with roots . „	...	...	80	...	...	...	...	...	...	...	
Thatching leaves . Bdles.	127	8	1,550*	108	23,240	1,452	874	55	25,791	1,623	*177 bundles were charged at double rate.
Total .	...	26	...	122	...	1,626	...	864	...	2,138	
					IV.—Leased Forests.						
					Nil.						
Total .	...	806	...	494	...	3,252	...	503	...	5,055	

In the "Remarks" column of this form it should be shown which of the figures entered in it are *actuals* and which are only *estimates*, it being also noted in the latter case how the figures have been arrived at.

Form No. 64.

Account of Timber and other Produce cut or collected by Government Agency and brought to Depôts, sold locally, or otherwise disposed of, during the year 1910-11.

Name of Division.	Balance at commencement of the year in forests and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forests and sale depôts.
1	2	3	4	5	6
Andamans					
	Padouk.				
	1,22,588	2,80,811	4,03,399	2,66,231	1,37,168
	Koko.				
	4,548	5,282	9,830	6,634	3,196
	Black Chuglam.				
	15,993	10,107	26,100	20,684	5,416
	Pyinma.				
	18,383	29,500	47,883	35,008	12,875
	Marblewood.				
	11	1,942	1,953	1,217	736
	Satinwood.				
	...	43	43	43	...
	Other Timber.				
	88,615	5,61,926	6,50,541	4,88,309	1,62,232
	Firewood.				
	98,340	6,92,280	7,90,620	7,20,320	70,300
Total	3,48,478	15,81,891	19,30,369	15,38,446	3,91,923

Annual Form No. 65.

Abstract showing the Value of Timber and other Produce at Sale Depôts for the forest year 1910-11.

Description of Timber and other Produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	C. ft.	Value.	No.	C. ft.	Value.	In favour of the year.	Against the year.	
1	2	3	4	5	6	7	8	9	10
			R			R	R	R	R
Logs . .	2,852	154,803	99,296	4,600	246,211	178,250	78,954	...	For . 78,954
Planks and scantlings.	...	95,335	113,037	...	75,412	78,279	...	34,758	Against . 36,160
Firewood . .	...	98,340	4,917	...	70,300	3,515	...	1,402	For . 42,794
Total .	2,852	348,478	217,250	4,600	391,923	260,044	78,954	36,160	

Annual Form No. 66.—[*Prescribed.*]

Abstract showing the Value of Live and Dead Stock for the year 1910-11.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	No.	Value.	No.	Value.	In favour of the year.	Against the year.	
1	2	3	4	5	6	7	8
		R		R	R	R	
Elephants . .	41	54,300	50	87,000	32,700	...	
Buffaloes . .	11	550	11	523	...	27	
Boats, timber towing	23	12,200	23	11,970	...	230	
Lighters . . .	2	1,700	2	1,600	...	100	
Carts, small . .	7	180	7	162	...	18	
Crane . . .	1	170	1	162	...	8	
Portable tramway .	miles 25¾ 1 locomotive, 90 trucks. 3 trollies.	91,000	miles 25¾ 1 locomotive, 90 trucks 3 trollies.	82,170	...	8,830	
Office furniture .	...	460	...	442	...	18	
Miscellaneous stores, axes, winches, dahs, etc.	...	22,200	...	29,840	7,640	...	
Dinghi . . .	2	100	4	350	250	...	
Forester's boat . .	1	650	1	615	...	35	
Steam timber boat *Rosamond.*	1	1,10,800	1	1,18,283	7,483	...	
Steam launch *Eileen*	1	12,700	1	11,072	...	1,628	
Jolly boats . .	1	200	1	175	...	25	
Buildings . .	...	13,500	...	12,466	...	1,034	
Butting saw engine and steam winches.	...	2,700	...	2,650	...	50	
Oil motor boats .	...	2,750	...	2,520	...	230	
							R
							For . 48,073
							Against . 12,233
Total .	...	3,26,160	...	3,62,000	48,073	12,233	For . 35,840

Annual Form No. 67.—[*Prescribed.*]

Summary of Revenue of the different Divisions during 1910-11.

Revenue.

	R	a.	p.
I.—Timber and other produce removed from the forests by Government Agency—			
(*a*) Timber	3,70,205	0	0
(*b*) Firewood and charcoal	25,515	0	0
(*c*) Bamboos	...		
(*d*) Sandal-wood	...		
(*e*) Grass and other minor produce	728	0	0
Total I	3,96,448	0	0
II.—Timber and other produce removed from the forests by consumers or purchasers—			
(*a*) Timber	6,173	0	0
(*b*) Firewood and charcoal	36	0	0
(*c*) Bamboos	55	0	0
(*d*) Grazing and fodder grass	...		
(*e*) Other minor produce	439	0	0
(*f*) Other items	...		
(*g*) Commutation fees	...		
Total II	6,703	0	0
III.—Drift and waif wood and confiscated forest produce	...		
Total III	...		
IV.—Revenue from forests not managed by Government—			
(*a*) Duty on foreign timber and other forest produce	...		
(*b*) Revenue from shared and private forests	...		
Total IV	...		
V.—Miscellaneous—			
(*a*) Fines and forfeitures	...		
(*b*) Refunds	29	0	0
Other sources	626	0	0
Total V	655	0	0
GRAND TOTAL REVENUE	4,03,806	0	0

Annual Form No. 67.—[*Prescribed.*]

Summary of Expenditure of the different Divisions during 1910-11.

A.—CONSERVANCY AND WORKS.

	R.	a.	p.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—			
(*a*) Timber	118,261	0	0
(*b*) Firewood and charcoal	12,559	0	0
(*c*) Bamboos	1	0	0
(*d*) Sandal-wood	...		
(*e*) Grass and other minor produce	578	0	0
TOTAL A. I.	1,31,399	0	0
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS	...		
TOTAL A. II	...		
III.—DRIFT AND WAIF WOOD AND CONFISCATED FOREST PRODUCE	...		
TOTAL A. III	...		
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—			
(*a*) Duty on foreign timber and other forest produce	...		
(*b*) Revenue from shared and private forests	...		
TOTAL A. IV	...		
V.—RENT OF LEASED FORESTS AND PAYMENTS TO SHAREHOLDERS IN FORESTS MANAGED BY GOVERNMENT	...		
TOTAL A. V	...		
VI.—LIVE-STOCK, STORES, TOOLS AND PLANT—			
(*a*) Purchase of cattle	38,168	0	0
(*b*) Feed and keep of cattle	12,821	0	0
(*c*) Purchase of stores, tools and plant	10,418	0	0
TOTAL A. VI	61,407	0	0
VII.—COMMUNICATIONS AND BUILDINGS—			
(*a*) Roads and bridges	1,940	0	0
(*b*) Buildings	1,263	0	0
(*c*) Other works	...		
TOTAL A. VII	3,203	0	0
VIII.—ORGANIZATION, IMPROVEMENT AND EXTENSION OF FORESTS—			
(*a*) Demarcation	31	0	0
(*b*) Cost of forest settlements; compensation for land and rights	...		
(*c*) Surveys	2	0	0
(*d*) Working-plans	...		
(*e*) Sowing and planting	5,911	0	0
(*f*) Protection from fire	4	0	0
(*g*) Other works	...		
TOTAL A. VIII	5,948	0	0
IX.—MISCELLANEOUS—			
(*a*) Law charges	...		
(*b*) Other charges	1,204	0	0
TOTAL A. IX	1,204	0	0
TOTAL A.—CONSERVANCY AND WORKS	2,03,161	0	0

Summary of Expenditure of the different Divisions during 1910-11—contd.

		R	a.	p.
Brought forward Total A.—Conservancy and Works		2,03,161	0	0
B.—ESTABLISHMENTS.				
I.—SALARIES—				
(*a*) Conservators		...		
(*b*) Superior officers		22,821	0	0
(*c*) Subordinate forest and depôt establishments		7,303	0	0
(*d*) Office establishments		3,983	0	0
(*e*) Deputation and special allowances		5,531	0	0
(*f*) Exchange compensation allowance		...		
	TOTAL B. I	39,638	0	0
II.—TRAVELLING ALLOWANCES—				
(*a*) Conservators		...		
(*b*) Superior officers		3,520	0	0
(*c*) Subordinate forest and depôt establishments		1,066	0	0
(*d*) Office establishments		...		
	TOTAL B. II	4,586	0	0
III.—CONTINGENCIES—				
(*a*) Stationery		1	0	0
(*b*) Carriage of tents and records		...		
(*c*) Rents, rates and taxes		...		
(*d*) Pay of police guards		...		
(*e*) Official postage		307	0	0
(*f*) Sundries		540	0	0
	TOTAL B. III	848	0	0
	TOTAL B.—ESTABLISHMENTS	45,072	0	0
	GRAND TOTAL OF EXPENDITURE	2,48,233	0	0
	SURPLUS	1,55,573	0	0

Annual Form No. 68—[*Prescribed.*]

Account current for the Forest year 1910-11.

RECEIPTS.						PAYMENTS.					
	R	a.	p.	R	a.	p.		R	a.	p.	R	a.	p.
Cash balance	...			21	6	7	I—Refunds and Drawbacks	...			3	15	3
							Expenditure during the year	...			2,48,238	5	1
VIII.—Assessed Taxes—							Forest deposits	...			...		
Income Tax—Deductions from salaries.	...			788	14	4	Forest advances	...			12,547	8	0
							Suspense account	...			170	14	2
Revenue during the year	...			4,03,805	11	1							
XII.—Interest	...			...			Savings Bank deposits—						
Forest Deposits	...						Bank account—						
Forest advances	...			12,240	3	6	General Provident Fund	...			820	0	0
Suspense account	...			170	14	2							
							Cash Remittances — Local—						
Service funds—							Forest Remittances—						
Bengal and Madras Service Family Pension Fund.	...			371	6	0	Remittances to Treasuries	...			3,02,315	10	11
							Unpaid cheques written back	...			..		
							Inter-divisional transfers	...			...		
Savings Bank deposits —													
Bank account—							Account current with Foreign States—						
Forest Officers' Provident Fund	140	0	0	...			Berar Suspense Account	...			...		
General Provident Fund	2,785	4	11	2,925	4	11	His Majesty's Colonial Government, Ceylon.	...			...		
Cash Remittances—Local—Forest Remittances—													
Forest cheques drawn	1,07,377	9	0	...			Exchange account with other Governments—						
Revenue Remittances written back.	3,065	9	3	...									
Inter-divisional transfers	923	15	6	1,11,307	1	9	Account between India and—						
Account current with Foreign States—							— Forest Remittances from— to —.	...			...		
Berar Suspense Account	...			...			— Items adjustable by —	...			...		
His Majesty's Colonial Government, Ceylon.	...			...			Account between India and Burma — Forest Remittances from — to—.	...			...		
Exchange Account with other Governments—							III.—Items adjustable by India.	34,746	0	11	...		
Account between India and—							Account between India and Eastern Bengal and Assam—						
—Forest Remittances to— from—.	...			...			—Forest Remittances from — to —.	...			...		
—Item adjustable by—	...			...			IV.—Items adjustable by Eastern Bengal and Assam.	8	9	7	...		
Account between India and Burma—													
— Forest Remittances to— from —.	...			...			Account between — and—						
III.—Items adjustable by India	288	14	0	...			— Forest Remittances from — to—.	...			...		
IV.—Items adjustable by Burma.	295	5	4	...			Account between — and—						
Account between—and—							— Forest Remittances from — to —.	...			...		
—Forest Remittances to— from—.	...			...			Account between — and—						
—Items adjustable by—	...			...			—Forest Remittances from — to —.	...			...		
Account between—and—													
— Forest Remittances to — from—.	...			...			Account between — and —						
Account Between —and—							— Forest Remittances from — to—.	...			...		
—Forest Remittances to— from—.	...			...			Account between India and Bengal—						
Account between—and—							—Forest Remittances from — to—.	...			...		
—Forest Remittances to — from—.	...			...			IV.—Items adjustable by Bengal.	22,343	3	8	...		
Account between India and Bengal—													
— Forest Remittances to — from—.	...			...			Account between India and United Provinces of Agra and Oudh—						
III.—Items adjustable by India	34,140	10	4	...			— Forest Remittances from— to—.	...			...		
Account between — and —							III.—Items adjustable by India	364	7	0	57,457	5	2
—Forest Remittances to — from—	...			...									
—Items adjustable by—	...			34,724	13	8	Inter-Departmental transfers—						
							P. W. Department, Ordinary Branches.	6,334	12	10	...		
Inter-Departmental Transfers—							P. W. Department, Military Works Services.	794	6	3	...		
P. W. Department, Ordinary Branches.	9,058	11	1	...			Military Department, Eastern Command.	17	4	3	...		
P. W. Department, Railway Branch.	...			...			Military Department, Northern Command.	51	10	6	...		
Military Department, Bengal Command.	...			...			Military Supply Circle	173	1	0	...		
Military Department, Northern Command.	51	10	6	...									
Military Department, Madras Command.	...			...			Military Department, Bombay Command.	...			...		
Military Supply Circle	195	1	9	...			Telegraph Department	...			...		
							Post Office Department	...			...		
Telegraph Department	132	5	5	...			Marine Department	5,819	3	11	...		
Post Office Department	317	0	0	...			Civil Departments	39,775	1	11	52,965	8	8
Marine Department	32,044	14	2	...			Cash balance	...			352	10	5
Civil Departments	66,211	6	9	1,08,011	1	8							
GRAND TOTAL	...			6,74,366	13	8	GRAND TOTAL	...			6,74,366	13	8

Annual Form No. 69.

Revenue received and Outstandings on account of revenue during 1910-11.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realised during year.	Balance due to the Department at end of year.	Remarks.
		₹ a. p.	₹ a. p.	₹ a. p.	₹ a. p.	₹ a. p.	
Andamans	Timber, Firewood and Bark, etc.	20,702 13 2	4,99,765 4 6	5,20,468 1 8	3,96,684 7 6*	1,23,783 10 2	*R236-4-8 written-off on account of bills cancelled.
	Other Revenue	...	7,357 8 3	7,357 8 3	7,357 8 3	...	
	Total	20,702 13 2	5,07,122 12 9	5,27,825 9 11	4,04,041 15 9	1,23,783 10 2	

Annual Form No. 70.

Outstandings and Liabilities on account of Contractors and Disbursers for 1910-11.

Division.	Department Debtor.			Department Creditor.			Balance Due.	
	Opening balance.	Recoveries in cash and value of supplies and work done during the year.	Total.	Opening balance.	Payments made during year.	Total.	To Department (Outstandings.)	By Department (Liabilities)
1	2	3	4	5	6	7	8	9
	₹ a. p.	₹ a. p.	₹ a. p.	₹ a. p.	₹ a. p.	₹ a. p.	₹ a. p.	₹ a. p.
Andamans Forest	...	12,240 0 0	12,240 0 0	34 4 3	12,547 8 0	12,581 12 3	341 8 9	...
Total	...	12,240 0 0	12,240 0 0	34 4 3	12,547 8 0	12,581 12 3	341 8 9	...

Annual Form No. 71.

Financial results of the year 1910-11.

Division.	Timber and other produce removed from the forests by Government Agency.		Other revenue.		Formation, protection and improvement of forests.	Total.	
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.
	R	R	R	R	R	R	R
Andamans	3,96,448	1,92,049	7,358	1,000	55,184	4,03,806	2,48,233
Total	3,96,448	1,92,049	7,358	1,000	55,184	4,03,806	2,48,233

Appendix I.

Descriptive roll of elephants in the Andamans Forest Division on the 30th June 1911.

Serial No.	Name of elephants.	Sex.	Height. Feet.	Height. Inches.	Date of receipt.	Estimated age on 31st March 1892 or on date of receipt if received later.	Percentage.	Number of years elephant has been working.	Condition.	No. of days. At work.	No. of days. At rest.	No. of days. Sick.	Cost price.	Remarks.
1	2	3	4		5	6	7	8	9	10			11	12
								Y. M.						
1	Hannah	Female	7	6	Before July 1891.	33	52	More than 20 0	Good	183	108	74	...	
2	Bhairon Pershad (Tusker).	Male	8	4	December 1895.	32	48	„ 15 6	Do.	186	175	4	3,488	
3	Australia	Female	7	7½	Before March 1886.	28	47	„ 25 0	Very good	280	85	...	...	
4	Viper	„	7	10¾	Do.	36	55	„ 25 0	Fair	236	120	9	...	
5	Latchmi	„	7	8	April 1891	32	52	20 0	Poor	165	149	51	3,025	
6	Sah Pah (Tusker)	Male	8	4	March 1894	33	50	17 0	Fair	248	109	8	3,538	
7	Bhokaung (Do.)	„	8	4	Do.	36	53	17 0	Very good	243	85	37	4,088	
8	Shur Daung (Tusker).	„	7	10	Do.	34	51	17 0	Do.	248	63	54	3,238	
9	Paul (Tusker)	„	8	8	March 1895	30	46	16 0	Do.	264	90	11	3,763	
10	Adulphus (Tusker).	„	7	11	Before March 1886.	23	42	More than 25 0	Do.	274	72	19	...	
11	Pagi	Female	7	9	March 1894	32	49	17 0	Do.	238	77	50	2,713	
12	Wellington (Tusker).	Male	8	3¼	March 1895	35	51	16 0	Do.	256	98	11	3,855	
13	Maxie	Female	7	7½	Born in January 1886.	6	25	9 0	Do.	275	90	...	...	
14	Aurangabad	„	7	6⅓	May 1892	1	36	19 0	Do.	299	66	...	2,530	
15	Jangi Puri	„	7	10⅓	April 1891	27	47	20 0	Do.	232	98	35	3,025	
16	Mah Pah	„	7	11	March 1894	31	50	17 0	Fair	244	121	...	2,813	
17	Behram (Tusker)	Male	8	7	December 1895.	28	44	15 6	Very good	215	123	27	3,355	
18	Goolabi	Female	7	9	March 1895	40	56	16 0	Fair	192	108	65	2,605	
19	Chester Bahadur	Male	8	4	Born in August 1897.	5	14	...	Very good	175	190	...	...	(Late Diamond Jubilee.)
20	Schlich Bahadur	„	7	3½	Born in January 1900.	3	12	...	Good	128	237	...	...	(Late Nineteen Hundred.)
21	Mabel	Female	8	1	11th February 1902.	28	37	9 4	Do.	203	138	24	4,523	
22	Sooraj Mookhie	„	7	8	Do.	33	42	9 4	Poor	160	167	38	4,523	
23	Lily	„	8	...	Do.	30	39	9 4	Very good	248	117	...	4,523	
24	Gulbadan	„	7	8½	Do.	26	35	9 4	Do.	282	72	11	4,523	
25	Rani	„	7	9⅔	Do.	30	39	9 4	Poor	150	137	78	4,523	
26	Moti Mallah	„	7	10	Do.	25	34	9 4	Very good	284	80	1	4,523	
27	Delhi	„	7	9	Do.	26	35	9 4	Do.	295	70	...	4,523	
28	Meerut	„	8	2⅓	Do.	27	36	9 4	Do.	304	61	...	4,523	
29	Bhola Nath (Tusker).	Male	8	5	28th January 1903.	30	38	8 5	Good	216	128	21	5,914	
30	Amir (Tusker)	„	8	4	Do.	23	31	8 5	Do.	237	98	30	5,915	
31	Gopal Das (Tusker).	„	8	11	Do.	25	33	8 5	Very good	270	90	5	6,215	
32	Latchmi Pershad (Tusker).	„	9	1	Do.	30	38	8 5	Good	256	81	28	6,415	
33	Sunder Pershad (Tusker).	„	8	11½	Do.	25	33	8 5	Do.	266	99	...	5,915	
34	Singesur Pershad (Tusker).	„	8	7¼	3rd January 1905.	30	36	6 6	Do.	257	102	6	6,464	
35	Ganga Pershad (Tusker).	„	8	4½	Do.	25	31	6 6	Do.	283	82	...	6,464	
36	Panjey (Tusker)	„	8	7½	26th April 1906.	28	33	5 2	Very good	248	86	31	6,312	
37	Tupang (Do.)	„	7	9¾	Do.	28	33	5 2	Do.	258	78	29	6,312	
38	Kowal	Female	7	7	Do.	38	43	5 2	Do.	280	85	...	6,312	
39	Madhoo	„	7	9	Do.	23	28	5 2	Do.	215	150	...	6,312	
40	MePu	„	7	1	21st February 1907.	40	44	4 5	Good	208	157	...	4,972	
41	Arnold (Tusker)	Male	8	8	Before July 1891.	41	60	20 0	Do.	229	136	...	...	
42	Luchminia	Female	7	2	25th May 1911.	22	22	0 1	Do.	...	36	...	4,693	
43	Pawan Peari	„	7	4	Do.	32	32	0 1	Do.	...	36	...	5,543	
44	Meg Mala	„	6	10	Do.	20	20	0 1	Do.	...	36	...	4,392	
45	Dharam Peari	„	7	...	Do.	30	30	0 1	Do.	...	36	...	5,543	
46	Joy Moti	„	...	...	Do.	2½	2½	...	Do. (calf)	...	36	...	375	Calf of Dharam Peari.
47	Mander Mala	„	7	3	Do.	30	30	0 1	Do.	...	36	...	4,893	
48	Madhu Mala	„	7	2	Do.	28	28	0 1	Do.	...	36	...	5,093	
49	Bateswar	„	7	...	Do.	30	30	0 1	Do.	...	36	...	5,093	
50	Sudamani	„	6	...	22nd June 1911.	14	14	...	Do.	...	8	...	3,250	
									Total	9,730	4,774	757		

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PROGRESS REPORT

FOREST ADMINISTRATION IN THE ANDAMANS

FOR

1911-12

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No. C.C.-198, dated Port Blair, the 31st December 1912.

From—J. L. BAKER, Esq., Deputy Conservator of Forests, Andamans,

To—The Chief Commissioner and Superintendent of Port Blair.

I have the honour to forward the Annual Report on the Forest Administration for the year ending 30th June 1912.

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No. $\frac{2221}{\text{VII-22}}$, dated Port Blair, the 8th January 1913.

From—Lieutenant-Colonel H. A. Browning, I. A., Superintendent of Port Blair,

To—The Secretary to the Government of India, Department of Revenue and Agriculture.

I have the honour to submit, in original, letter No. C. C. 198, dated the 31st ultimo, from the Deputy Conservator of Forests, together with the Annual Report for the year 1911-12, with forms of appendices.

2. No change in the area of reserved forests has been made during the year of report. An attempt made for the first time this year to show the areas of the principal islands separately by means of the planimeter from existing maps has resulted in an increase of 217 square miles in the total area of forests.

3. The working plan for the North Andamans still remains in abeyance as no offer has been made for the lease of the North Andaman forests but a scheme to work the North Andamans departmentally with free labour was submitted to the Government of India after the close of the year. Proposals were also made in the year under report for a working plans party to survey the Middle and South Andamans to which sanction was received after the close of the year.

4. The permanent tramway and rolling stock have been well looked after. All iron sleepers were removed and 1,407 wooden sleepers were renewed, the sleepers now resting on stone ballast, the stability of the line being considerably improved thereby. Over $1\frac{3}{4}$ miles of temporary line were laid and $1\frac{1}{4}$ miles taken up in the year. The tramway has done good work and has been worked at a low cost.

5. No fires occurred during the year, but fire lines were cleared through the rubber plantation.

6. Considerable attention continued to be paid to the rubber plantation, which was extended slightly during the year; the total area under rubber amounts now to 129 acres; the trees appear healthy and have grown well.

7. No padouk taungya plantations were made during the year. The growing of hill paddy in taungya areas along with young padouk, which was advocated by a former Conservator of Forests of the Pegu circle, has been discontinued on the advice of the present Conservator of the Pegu circle, Mr. C. G. Rogers, as being actually harmful to the young padauk seedlings.

8. 3,003 tons of rough-hewn padouk squares were shipped during the year, of which 940 tons were shipped under the 1912 contracts between January and June 1912, the balance being of the 1911 contracts. The delays in the shipments of the 1912 contracts were due, the Deputy Conservator of Forest reports, to the late receipt of offers for padouk. A loss of Rs. 67,000 in revenue was the result of the purchasers under the 1911 contract declining, in order to suit their own interests, to receive shipments except by the mail steamer, they having taken advantage of a doubtful clause in the conditions of sale, which have, however, since been revised so as to eliminate such a contingency in the future. For the same reason a loss of Rs. 39,000 was sustained through the same firm in regard to shipments of sawn gurjan timber.

9. The work of supplying charcoal and cane to meet Settlement demands was, during the year of report, handed over to the Forest Department, the sources of supply of these articles being worked out in the immediate vicinity of Port Blair.

10. There were 50 elephants on the books of the Department. No casualties occurred, but one elephant being found too old to work, was turned loose.

11. The forest timber boat "Rosamond" brought in 7,110 tons of timber during the 9 months she was at work. She was sent to Calcutta for her annual refit and was absent from the 14th January till the 15th April 1912. As work gets further and further away from Port Blair the question of the provision of a second steam timber boat will have to be considered in the near future.

12. Five hundred and ninety-three thousand five hundred and five cubic feet of timber were extracted against eight hundred and eighty-three thousand, six hundred and seventy-five cubic feet in the previous year, the decrease being due to the absence of purchasers during half of the year under report and also partly to a shortage in the labour force. The shortage of labour is beginning to be seriously felt in all departments and will continue to hamper all Departments so long as Government adhere to their present order that all new arrivals shall be incarcerated for their first six months in the cellular jail. Some modification of this rule is becoming a pressing necessity.

13. The revenue of the Department was Rs. 4,59,238 against Rs. 4,03,806 of the previous year and the expenditure Rs. 2,31,557 against Rs. 2,48,233 in 1910-11.

14. The most important feature of the year was the transfer, with effect from the 1st April 1912, of the Chatham Saw Mill from the Public Works Department to the Forest Department. There is force in the remarks of the Deputy Conservator of Forests that the saw mill machinery and appliances are inadequate and old-fashioned; a proposal has been put up, and is now under the consideration of a local committee, for improving matters at a cost of R35,170. Some improvement in the near future seems absolutely necessary.

15. A scheme for the erection of a semi-portable saw mill on Long Island was submitted to Government during the year to which sanction was accorded after its close.

16. Sir H. A. Farrington was in charge of the division till the 7th November 1911, and Mr. J. L. Baker from that date till the close of the year. Both these officers efficiently administered the Department. The Extra-Assistant Conservators, Messrs. B. P. Kelly, and M. C. Bonig did excellent work, the last named receiving the Kaisar-i-Hind Medal of the first class on the occasion of the Coronation Durbar in December 1911. Both are excellent and reliable officers. Mr. W. H. Miller, Extra-Assistant Conservator, was confirmed in his appointment with effect from July 1911. There is room for an improvement in his work. Mr. Brown, Extra-Assistant Conservator of Forests, who only joined on transfer from Burma 3 months before the close of the year of report and Mr. C. E. Parkinson, Probationary Extra-Assistant Conservator of Forests, and the Rangers have all done well.

Report on the Forest Administration in the Andamans for the year 1911-12.

CHAPTER I.

CONSTITUTION OF STATE FORESTS.

SECTION I. ALTERATION IN AREA. (*Form 51*).

There has been no change in the area of Reserved Forests during the past year.

Unclassed forest or waste to the extent of 46 acres was cleared for cultivation in the South Andaman Settlement during the year.

In view of the fact that all the Islands are clothed with virgin forest an attempt has been made this year for the first time to show the areas of the principal islands separately in Form 51. The areas have been taken by planimeter from the existing maps on the scale of two miles to one inch.

The result is to increase the total area by 217 square miles. The previous figures have been carried on for many years past and it is not known how they were obtained.

The settlement extends to the South Andaman only, area 478 square miles made up roughly as follows:—

	Square Miles.
Jarawa Country	203
Reserved forests	156
Cleared for Settlement	44
Other unclassed forests	75
TOTAL	478

Of the reserved forests, 71 square miles are situated in the Jarawa country.

SECTION II. FOREST SETTLEMENT. (*Form 52.*)

2. As the Indian Forest Act is not in force in the Andamans Forest Settlement merely consists of an executive order approving proposals to constitute any area a reserve.

No such proposals were made by the Forest Officer during the year under report.

SECTION III. DEMARCATION. (*Form 53.*)

3. Out of six miles of boundary which remained to be demarcated at the close of the previous year four and a half miles in the Brigade Creek Reserve were demarcated with wooden boards at a cost of Re. 1, whilst one and a half miles in the Mount Harriet Reserve do not need demarcation, and have been transferred to natural boundaries.

Though the demarcation is thus completed the boundaries are in some cases in need of revision, and in the absence of a boundary survey their lengths and their position on the map are only approximate.

One mile of the Mount Harriet Reserve boundary was repaired at a cost of Re. 1.

SECTION IV. FOREST SURVEYS. (*Form 54.*)

4. No Forest Survey was made by the Survey of India during the year.

The padouk *taungya* area of 1911, the 1910 rubber plantation, as well as the land available for extension of rubber were surveyed by chain and compass,

but as the labour employed has not been charged in the accounts to A viii(*c*) and as the areas have not been reported no entries have been made in Form No. 54.

5. The Form No. 54 of previous years is misleading. The Survey of part of the South Andaman on the 4″ one mile scale in 1883-85 was not undertaken on account of the Forest Department, but at the cost of the Civil Administration.

And the area of 248 square miles shown for some years past in column 10 as surveyed *with details of growing stock* should not be so shown at all because it refers to enumerations or countings of trees (valuation surveys) which are not geodetic surveys at all and therefore have no place in Form 54.

This area has consequently been omitted.

6. *Form 67.*—The total expenditure on the constitution of Reserved Forests during the year was Rs. 2.

CHAPTER II.

MANAGEMENT OF STATE FORESTS.

SECTION I.—REGULATION OF MANAGEMENT.

(*a*) *Preparation and Control of regular working-plans* (Form 55).

7. The Working-Plan for the North Andaman remained in abeyance as no one came forward with an offer to lease the forests.

Orders were received in May 1912 from the Government of India to submit proposals for working these forests departmentally with imported labour, and the matter was still under consideration at the end of the year.

8. It was not possible to find labour to clear any of the compartment lines in the North Andaman.

The padouk trees in the sample plot on Chatham Island in Port Cornwallis were re-measured in November 1911 and again in March 1912. On the first occasion they could not all be measured. The sample plot requires demarcation and the painting of rings on a regular system. The growth of buttresses to some extent prevents this.

(b) Preliminary Working-Plan report.

9. Proposals were submitted by the writer in April 1912 with a view to obtain sanction to the expenditure in connection with the long pending working-plan for the forests in the Andamans other than the North Andaman.

The orders of Government sanctioning these proposals were received after the close of the year.

10. A preliminary working-plan report was submitted to the Inspector General of Forests just after the close of the year and was subsequently approved by him in general outline.

(c) Annual plan of operations.

11. The only important deviations were :—

(*i*) The padouk taungya plantation in Wimberleygunj valley was not done for want of labour, though seed had been collected.

(*ii*) The cutting of creepers and climbers in the secondary growth in parts of the Brigade Creek Reserve was omitted for the same reason.

(*iii*) It was found impossible to protect young *gurjan* (Dipterocarpus) saplings from destruction in the clear fellings for fuel. Some of the larger trees are being left instead.

(*iv*) The Chatham Sawmill depôt sea wall could not be extended for want of labour, so that there is still insufficient space to store a good stock of logs for conversion in the Sawmill.

CHAPTER II.

SECTION II.—COMMUNICATIONS AND BUILDINGS. (FORM 56).

(a) Roads and Bridges.

12. *The Wimberleygunj Steam Tramway.*—The total length of permanent line remained at 6 miles with 36 masonry. 25 wooden bridges and one corrugated iron culvert, and the number and length of permanent sidings remained unaltered.

The recommendations of the Conservator of Forests, Pegu Circle, were carried out as far as possible. Ballast was broken small and packed under each wooden sleeper. All iron sleepers were removed from the permanent line and 1,407 wooden sleepers were renewed. The drains have been opened and each sleeper now rests on stone ballast, so that the line is firmer, and the life of the sleeper is increased, and as a result no derailment took place during the year.

The rolling stock consists of one locomotive 'Olive' 48 large, 13 small wooden trucks and 16 iron trucks. Each truck is overhauled once a month, and the greatest wear and tear is found to be on the brakes.

Repairs to the engine are executed by the Phœnix Bay Workshops, and sometimes inordinate delays occur, extending in one case to nearly six months.

The maintenance of the permanent line costs R1,097 as compared with R1,940 in the previous year showing a further reduction of R843.

13. Temporary lines 3,235 yards were laid to and in the Goplakabang reserve for the transport of fuel from the forests to the permanent line and 80 yards were laid at Kadakachang to carry earth for reclaiming land on the edge of the creek to form an embankment alongside which to berth the fuel lighter.

Yards 2,106 were lifted at Wimberleygunj as being no longer required.

There were 3·3 miles of temporary lines in use at the close of the year.

	Yards.
Wimberleygunj	3,911
Kalatang	1,663
Kadakachang	80
TOTAL	5,654

The cost of construction, maintenance and lifting of temporary lines was R1,026 as against R1,544 in the previous year and was debited to A.i.b.

14. Firewood 7,026 cords were transported over the line as compared with 5,711 cords in the previous year. The value of the fuel at the fixed rate of R4 per cord was R28,104.

The expenditure incurred was:—

	R
On cutting fuel	8,433
On upkeep of line	4,274

so that the average net revenue is about R2-4 per cord.

Mr. B. P. Kelly, Extra Assistant Conservator of Forests, deserves great credit for his successful efforts to keep the line in an efficient state at a low cost, which result has been brought about by his close and constant attention to details.

(b) Buildings.

15. *Permanent Buildings.*—The shed for storing surplus tramway materials at Chatham was completed at a cost of R28.

A permanent Rest House for Forest Officers was begun at Long Island and nearly completed at a cost of R324 for labour on clearing the site, and construction. This is in a central position from which to inspect extraction camps in the Middle Andaman for some years to come.

Sheds for storing sawmill timber awaiting shipment are urgently required on Chatham, but could not be taken in hand for want of labour.

16. *Temporary Buildings.*—It has been the practice hitherto to charge the cost of temporary buildings, which are mainly bamboo and cane leaf huts, to A.vii-b, and to show the total expenditure in Form 56. But this is clearly contrary to the Forest Department Code which lays down in Appendix XXVIII, Classification of Revenue and Expenditure, that such temporary buildings in connection with the departmental extraction of timber, shall be charged to sub-head A. i-a. Steps have been taken to charge this expenditure correctly in future.

The total expenditure on temporary buildings in connection with the timber extraction camps at Rutland, Middle Andaman, and Baratang was R1,318 as compared with R886 in the previous year. The increase is due to camps having been shifted more frequently.

Repairs to all buildings temporary and permanent cost R559.

Section III.—Protection of Forests.

(a) General Protection (Form 57.)

17. There were four cases of unauthorised felling involving four persons who were prosecuted. Fines of R15 and R10 were imposed in two cases, and the accused were acquitted in the other two cases.

(b) Protection from Fire.

18. No forest fire is known to have occurred in the whole of the Andamans during 1912 although the dry season was unusually prolonged.

If a fire did occur it would probably do no harm to speak of in this class of forests.

As the engine was not sent past the rubber plantation during the dry season no protective measures were needed, but fire-lines were cleared on either side of the Kalatang road through the plantation at a cost of R12 which has been charged to A.viii-e.

(c) Protection from Cattle (Form 59).

19. Cattle trespass continues, and 208 head (51 cows, 119 goats, and 38 buffaloes) were impounded as against a total of 98 in the previous year. A bamboo fence had to be put round the 1911 padouk taungya but it only served to keep out cattle. A watchman is employed to patrol the Goplakabang valley to prevent trespassing.

In previous years Form 59 shows that all the unclassed forests are open to grazing. They may be open in the sense that people may graze there if they wish but it really gives an incorrect impression to show uninhabited tracts as open to grazing.

At the most it can only be said that the unclassed forests of the South Andaman Settlement, about 278 square miles are really open for grazing and of these about 203 square miles are practically closed by the fear of the hostile tribe of Jarawas.

Another point is that there is not a blade of grass to be found in all the natural forests.

(d) Protection against injuries from Natural Causes.

20. *Damage by insects.*—Mr. B. P. Kelly, Extra-Assistant, Conservator of Forests reports that this class of damage is very slight in the padouk *taungya* of 1911 and he attributes this result to the absence of grass. The 1910 *taungya* which sufferred so severely last year has suffered less this year, and in all the older plantations the damage is confined to a few plants.

This damage has been put down to a weevil but Mr. Kelly has observed that the attacks become less as the plants grow taller, that the damage is greatest where grass is plentiful, that the attacks occur in May and June and again in September and October, that it is confined to tender shoots only which are 'ringed' but not eaten, and then wither and drop off, and that wingless grasshoppers are numerous at the time of the attacks. He therefore thinks that grasshoppers are responsible and points out that a weevil (beetle) can fly to any part of a plant and is not restricted to young plants near the ground.

21. *Climbers.*—The areas clear-felled for fuel in former years abound in climbers and creepers which effectually prevent the regeneration of the forest.

A recent clear-felling in Goplakabang reserve has resulted in the ground being occupied almost exclusively by a species of *Passiflora*.

In the high forests where timber is being extracted it is not, however, so much the climbers as a lower story of inferior species of small girth and height growth, which effectually prevents the regeneration of the forests. If this undergrowth were removed the forests so far from being dense would present a very open appearance. The late Mr. S. Kurz noticed this in his botanical explorations in 1866.

Section 4.—Sylviculture.

(a) Natural Reproduction.

22. *Seed.*—This year under report was a very good seed year for padouk. The writer spent a week in one of the extraction camps during the month of June when the South-west monsoon was well established, and the profuse germination of padouk seed was very noticeable everywhere in padouk forest. But two months later the same area revisited showed that practically all the seedlings had died for want of light.

The natural reproduction referred to in paragraph 15 of the last year's report, and in paragraph 17 of the report for 1909-10 had sprung up in artificial openings such as the gaps caused by fellings and drag-paths, hence the conclusion is irresistible that if the undergrowth can be removed and kept in check there will be no lack of good seed to stock the padouk areas, and that the old theories that much of the seed is unfertile and that parrots consume an excessive quantity must go by the board.

Inspections will be made annually at monthly intervals from May to September to follow up this inquiry from the seed-fall to the perishing of the young seedling for want of light. The main enumeration lines cut for the Working Plan will give suitable means of access to known areas which can be recorded. And as soon as the field season is over the Working Plan Officer Mr. N. C. C. Bonig, Extra Assistant Conservator of Forests, who though untrained in Forestry, is showing great keenness in this matter, will make an experimental clearing of undergrowth and climbers over about 100 acres of virgin padouk forest in order to see what results may be expected in unworked forest, as similar work conducted in worked-out forests in the Port Blair reserves seems liable to be vitiated by abnormal circumstances in the first place, and secondly by a tendency to make the work too artificial and too much like 'gardening' when it is so near headquarters.

23. *Coppice.*—Reproduction by coppice is practically non-existent, at least for useful species, in the Andamans. Evidence of this is everywhere to hand in the old clear fellings for fuel.

(b) Artificial Reproduction. (Form 61).

Regular Plantations.

24. *Mangroves.*—Small blanks in the Brigade Creek Reserve were filled but the results are not good. Those shown about five years ago are very stunted and are flowering already though only 4 ft. in height.

In the Dhani Khari reserve 70 acres which have failed year after year since 1902 were re-planted 6′ × 6′ with 80,000 seeds of *Rhizophora mucronata*. Hitherto *Bruguiera gymnorhiza* has been used and has failed no doubt owing to the water being too salt. *Bruguiera* must have fresh water and can only tolerate salt water at spring tides.

It remains to be seen whether the *Rhizophora* will do any better as there is evidence that the level of the soil was once higher and that it may have been washed away owing to the absolutely clear felling made. There are still a few mounds of earth left with Rhizophores growing on them. If the sowing is again unsuccessful it will not be worthwhile attempting to re-stock this area. The sowing was paid for after the close of the year.

A sum of R107 was wrongly charged for thinning the Brigade Creek Reserve mangrove plantations of 1898 and 1899. As the produce of the thinnings was saleable and yielded 148 cords of fuel, 17,000 ' bullies ' and 400 posts the cost of this work should have been charged to A. i.a and A. i.b. The bullies were mostly used departmentally for the timber depôt fences.

25. *Rubber plantation.*—(*Hevea brasiliensis*). An extension of 16 acres was made during the year, but as some of the plots are small, and adjoin existing plots it has been decided to include 5 acres along with 71 acres of 1908-09 and 1910-11.

The areas now stand thus :—

Year of sowing.	Acreage.	Plants.	Remarks.
1904-05	.42	1,710	
1910-11	76	7,605	
1911-12	11	1,171	
Total	1,29	10,486	

The oldest plantation is planted 15′ × 15′ but as this spacing is too close, the more recent plantations have been planted on the 22 ft. triangular system, thus giving the trees more space for lateral development.

26. A monthly girth record was maintained during the year for 30 stems of different sizes and on different aspects, soils, and elevation, and the average rate of increase in girth was 4·2 inches. The figures given in last year's Report (paragraph 22) was 4·2 inches for 17 trees, but for the 30 trees it was only 3·7 inches from August 1910 to June 1911.

There is no girth growth during the dry season January to March.

27. The following are the details of expenditure on the rubber plantation during the year—

Particulars.	Area of 1904-05 42 acres.	Area of 1910-11 76 acres.	Area of 1911-12 11 acres.	Area of 1912-13 100 acres.	Remarks.
	R a. p.	R a. p.	R a. p.	R a. p.	
Clearing jungle	...	57 0 0	121 0 0	1,029 0 0	
Nurseries	...	...	...	215 0 0	
Seeds	...	...	...	120 0 0	
Holing and staking	...	38 0 0	53 0 0	...	
Planting	...	45 0 0	28 0 0	...	
Paths	12 0 0	56 0 0	...	...	
Drainage	...	27 0 0	11 0 0	...	
Refilling	...	18 0 0	...	...	
Manuring	18 0 0	2 0 0	25 0 0	...	
Weeding and hoeing	375 0 0	769 0 0	7 0 0	...	
Fencing	...	2 0 0	...	...	
Implements	47 0 0	90 0 0	15 0 0	...	
Watchman	...	40 0 0	...	...	
Fire protection	...	12 0 0	...	...	
Total	452 0 0	1,156 0 0	260 0 0	1,364 0 0	
Cost per acre	10 12 2	15 3 4	23 13 1	14 10 8	

The grand total of all expenditure on rubber plantations during the year was R3,232 as shown in Form No. 61.

28. It is expected that by July 1913 some 400 Hevea trees will have reached 18 inches girth and be ready for the first light tappings.

Taungya Plantations.

29. No padouk taungya plantation was made during the year, but the seed which have been collected was scattered broadcast on the area clear out for fuel in Goplakabang reserve part of which was on padouk soil. The expenditure is shown below under cultural operations.

30. The *Taungya* area sown in April 1911 and referred to in paragraph 17 of last year's report produced nearly 47,000 lbs. of paddy. But it was decided not to repeat the experiment as the weeding which is required for the paddy is not good for the young padouk, which has a natural tendency to fork, and requires some natural jungle to give it side shelter. The paddy also appears to encourage the insects which injure the padouk seedlings. The cost of sowing and harvesting the paddy amounted to R273.

This padouk taungya of April 1911 is the first for some years to be sown on padouk soil. It was made at the instance of Mr. C. G. Rogers, Conservator of Forests, Pegu, at his inspection in April 1911, when he found that the taungyas ever since he left the Andamans in 1903 had been sown on the land clear felled for the fuel supply of the Settlement. This land for the most part carried evergreen forest which grows on soil which is wholly unsuited to padouk, and as a natural consequence the padouk is not doing well on those areas.

In the 1911 area on the other hand the padouk has grown remarkably well with the exception of a small patch which had been used for some years as grazing land. In parts of the area the padouk seedlings attained a height of 8 to 10 feet in one year from the date of sowing, and such a rate of growth can only be described as astonishing.

31. The total expenditure on padouk *taungya* plantations amounted to R2,741 as shown in Form No. 61, and included a sum of R459 spent on clearing grazing ground for villagers in place of land taken up for future padouk taungyas. It is essential that taungyas should only be made on soil suitable for padouk.

32. *Cultural Operations.*—The work of the year included the clearing of an area of 35 acres in the south of Rutland, which was sown up with padouk seed in patches about 6 feet apart.

This area was demarcated and surveyed so that the work done can be followed up in future years. The total cost was R167, or R4-2-4 per acre.

An area of 40 acres was somewhat similarly treated in the Goplakabang Reserve. Here the forest had been worked out many years ago, and only very hollow trees remain. The undergrowth was cleared and where the seedlings were numerous under the hollow padouk trees they were taken up and transplanted to other parts of the area where there were none. The undergrowth was first cleared in May and June over germinated seed, and, but for this clearing, the seedlings would as usual have perished for want of light.

From inspections made after the close of the year this work appears likely to be a success and the credit is due to Mr. B. P. Kelly, Extra-Assistant Conservator of Forests, for starting this work. The cost was R80 or R2 per acre.

The area clear felled for fuel during 1912 in the Goplakabang reserve was burnt over and sown up with the padouk seed which had been collected for the padouk taungya which was not carried out. Part of the land was padouk soil but as it was mostly occupied by evergreen forest before the felling it has not been classed as a *taungya*.

The cost was for sowing padouk seed broadcast R5, for burning R52, and for seed R81, total R138.

The total cost of cultural operations was thus R385.

33. According to Form No. 61 the total expenditure charged to artificial reproduction was R6,561, but it is necessary to exclude the following items which were wrongly classified in the accounts under this head :—

R54 for labour employed on exploration.

R41 for labour on cutting lines in Rutland in connection with the work described in paragraph 34 below.

The real expenditure on artificial reproduction was R6,466 distributed as follows :—

Regular plantations.

	R
(*i*) Rubber	3,232
(*ii*) Mangrove	108
Padouk taungyas	2,741
Cultural operations	385
TOTAL	6,466

(*c*) *Operations for the improvement of the growing stock.*

34. Cleanings were carried out in Rutland, by Mr. C. Alfred, Forest Ranger, over an area estimated at about 9,000 acres. The work was confined to cutting creepers and inferior species interfering with the padouk seedlings and saplings which had sprung up naturally in the gaps caused by former fellings. In the course of the work over 13,000 padouk seedlings over two feet in height were counted. It is impossible to give the area actually cleaned without a large scale map, but the work was carefully done, and there is probably little missed out in the tract worked over as a series of parallel guide lines was employed in the padouk forest in order to control the work.

The cost of the work was R483 which includes a sum of R41 wrongly charged to A.viii.e., and shown in the total of Form No. 61.

35. Similar work was attempted in North-East Baratang by Mr. W. H. Miller, Extra Assistant Conservator of Forests, but with less success than that of Mr. Alfred. The Conservator of Forests, Pegu, who arrived for inspection shortly after the commencement of this work, strongly condemned it as useless for instead of seeking out the recent fellings and freeing the natural growth of seedlings and saplings Mr. Miller had, in the area inspected, merely made a preliminary clearing of undergrowth in the hope of inducing natural reproduction by this means. Subsequent inspections after the close of the year showed that this hope was never realised.

36. After Mr. Rogers' departure the work was carried out on right lines, and with Mr. Parkinson, Forest Ranger, fresh out of Dehra Dun College to assist, a considerable area was properly treated during April and May.

37. The total area gone over in Baratang is estimated at about 6,000 acres and the cost was R756. The apparently higher cost over the same work on a larger area in Rutland, may be partly due to the fact that in Rutland the padouk forest is not so exclusive as in Baratang. Patches of evergreen constantly occur in the middle of the padouk in Rutland, so that the total area gone over will include areas of evergreen forest which cannot be indicated with the present $\frac{1}{2}$ inch to 1 mile map.

38. The small patch of naturally established padouk reproduction in the *Namunaghar* Reserve was cleared and weeded at a cost of R21.

39. The total expenditure on operations for the improvement of the growing stock as shown in Form 67 under Sub-head A.viii.g. was R1,249.

From this must be deducted R28 spent on exploration work which was wrongly charged to this head.

And a sum of R41 must be added which was wrongly charged to A.viii.e.—sowing and planting.

(*d*) *Experiments.*

40. There is nothing to report regarding the exotics *Afzelia palambanica* and *Swietenia Mahagoni*. Neither appear likely to do any good in the Andamans.

If anything teak would appear to offer considerably better prospects than either of the above.

The experiment of treating padouk logs with an antiseptic referred to in paragraph 26 of last year's report proved a failure.

The padouk seed referred to in last year's report as giving 60 per cent. germinated was collected in March 1910, not 1911.

A further small lot of seed over 2 years old was found by Mr. Kelly to germinate very successfully, from which it would appear that padouk seed retains its power of germination for a long time when stored in a dry place.

41. Sleepers of the following timbers were buried in the ground for half their length :—

(1) Lagerstroemia hypoleuca, (2) Dipterocarpus sp., (3) Terminalia bialata, (4) Myristica Irya, (5) Artocarpus Chaplasha, (6) Terminalia Catappa, (7) Planchonia andamanica, (8) Mesua ferrea, (9) Calophyllum spectabile, (10) Pterocarpus dalbergiodes. At the end of the year all were sound both below and above ground except (2) Dipterocarpus which was attacked by white ants throughout and (3) Terminalia bialata which was decaying below ground and was attacked by a fungus.

Such experiments should be confined to species which are, or may be, of commercial importance owing to their common occurrence.

Section V.—Exploitation.

(*a*) *System of Management.*

(i) Major Forest Produce.

Timber.

42. In the absence of any Working-Plan all fellings for timber are 'Unregulated', the trees being too often felled where most convenient for extraction in order to fulfil a contract by a given date. This way of working makes the subsequent exploitation of some areas more difficult and more costly.

43. Fellings were carried out during the year in the Middle Andaman, in Rutland, and from the month of June in an area in Baratang which had only been partially worked before, and from which the easily accessible timber had been removed.

It is not possible to give the areas correctly because the only available maps are on the small scale of $\frac{1}{2}$ inch to 1 mile, and it is therefore difficult to do more than indicate very roughly the areas exploited. About 7 square miles of padouk forest appear to have been worked over.

Other timbers were obtained from padouk forest, *e.g.*, *Pyinma* (Lagerstroemia) *Didu* (Bombax insigne), but *Gurjan* (Dipterocarpus) and *Mohwa* (Mimusops littoralis) were obtained from comparatively small areas near the sea shore in different localities according to season.

44. The seasons play a very important part in the exploitation of the forests, as certain areas can only be worked during the north-east monsoon and others only in the south-west monsoon, and others again only in the calm months February to April. The areas which can be worked all the year round are comparatively small in extent and almost entirely confined to the Middle and North Andamans, to which latter Island the operations of the Department have not yet extended.

These sheltered areas appear to be the richest in padouk.

Fuel.

45. The bulk of the fuel extracted was obtained from clear fellings in the Brigade Creek and Goplakabang reserves which extended over 6 acres and 175 acres, respectively.

In the case of fuel extracted by consumers it is not possible to state the area worked over; some of it was obtained from waste land or unclassed forest.

46. The clear fellings were made in evergreen forest which does not coppice readily and the result is disastrous, as there is little hope of a future crop, but every prospect of a rank secondary growth of tangled weeds and inferior species such as Macaranga, notwithstanding that Dipterocarpus of under 7 feet girth are left unfelled as mentioned in paragraph 28 of last year's report.

An attempt will be made to sow up the ground with some quick growing species after felling but the scarcity of labour will make it difficult to do much in the way of restoring these areas.

Section 5.

Exploitation.

(a) *System of management.*

(*ii*) Minor Forest Produce.

47. The exploitation of minor forest produce is not regulated in any way, and as a result of this certain articles are very scarce now in the forests around the Settlement, notably canes and thatching leaves. The latter consists chiefly of the leaves of two species of *Licuala* which have largely disappeared owing to a practice of cutting down the whole plant instead of taking the leaves only. With the leaves the unripe seeds are also destroyed so that the plant cannot reproduce itself.

It has therefore become necessary to draw upon the forests outside Port Blair for canes and thatching leaves.

Rutland Island, area 30,540 acres, has also been worked out for canes, and the cane file was transferred to Baratang after the close of the year.

Mangrove bark is obtained departmentally in connection with the supply of mangrove fuel for the locomotives of the steam tramway.

(b) *Agency of Exploitation (Forms 62 and 63).*

(*i*) Departmental Agency.

48. As usual the greater part of the timber and fuel was extracted by departmental agency.

Nearly 74 per cent. of the timber, and 79 per cent. of fuel were extracted departmentally whilst of minor produce only 21 per cent. by value was extracted by the Department.

49. *Major produce.*—Tons 3,003 of rough-hewn padouk squares were shipped during the year under report.

Of this quantity 2,063 tons were shipped under the 1911 contract between July and December 1911 whilst 940 tons were shipped under the 1912 contracts between January and June 1912.

The small quantity exported in the first half of 1912 was due to the late receipt of most of the offers to buy padouk—the principal sales not being effected till about the end of May.

A new system of sales was introduced as the firm which had practically monopolised this trade in the past made an offer which was unacceptable. In 1912 the padauk has been distributed amongst six buyers.

During the latter half of 1911 the purchasers under the 1911 contract declined to receive shipments except by the mail steamer and this resulted in a loss of revenue for the year of R67,000. The reason for this was that the market had gone against the buyers and they promptly took advantage of a doubtful clause in the conditions of sale. The latter have since been revised and approved by the legal advisers of Government.

The same firm took up the same attitude with regard to shipments of sawn gurjan and on this head the loss was R39,000.

Fuel.—7,232 cords of fuel were supplied to the Settlement, and 114 cords were used by the tramway locomotives.

The "Rosamond" and the "Eileen" used 1,176 cords much of which was cut at the extraction camps.

The duty of supplying *charcoal* to the Settlement was undertaken by the Forest Department from November 1911 and 5,004 maunds were prepared up to June 1912.

Minor Produce.—The cane file was transferred to the Forest Department from October 1911. Canes are principally supplied to the Cellular Jail for making baskets, and furniture.

The total revenue of the year from the sale of produce extracted by Government agency was R4,52,299, of which details are given by sub-heads in Form No. 67.

50. *Transport by land.*—Appendix I is a list of the elephants in the Andamans, with details of the number of days worked by them.

There were no casualties during the year, but one more elephant "Latchmi" was found to be too old for work and is to be turned loose as soon as a sore on her back is healed.

Transport by water.—The twin-screw steamer "Rosamond" was at work from July 1911 to the 12th January 1912 and again from the 18th April to the end of the year. In the interval she was sent to Calcutta for annual refit.

She brought in 7,110 tons of timber during the year, and during her absence the steam launch "Eileen" towed rafts or boats with 486 tons.

As work is getting more distant from Port Blair the absence of the "Rosamond" for 1½ to 2 months in each year will be more and more felt.

Section 5 (*b*)

(*ii*) Purchasers.

51. *Major produce.*—The revenue from timber sold standing to purchasers was R5,931 as against R6,175 in the previous year.

The revenue from fuel cut by purchasers on permits at annas four per cart load was R106.

Bamboos yielded R36 as against R55 in the previous year.

Minor produce yielded R207 as against R439 in the previous year. The decrease in each case was due to the extension of privileges to local inhabitants to remove these articles free of charge for their own use, from about the 1st January 1912.

The total value of all forest produce extracted by the purchasers themselves was R6,280.

(*iii*) Rights and privileges.

52. There are no rights. From February 1912 the concession was granted to all villagers in the Settlement to remove thatching materials for their own domestic use from the Reserved Forests free of charge. In alternate years, to prevent depletion of thatching materials, they will be allowed to cut them in Baratang and Rutland, water carriage being supplied by the settlement.

It is not possible to give accurate figures of produce actually removed, but the estimated value is R10,435.

(*iv*) Free grants.

53. The Settlement authorities cut fuel free of charge at outlying stations *viz.*, for the Tea garden 212 cords and for six other stations 225 cords—total 437 cords as against 665 in the previous year.

Free grants of sawn timber 774 cubic feet valued at R1,319 were made to the Gymkhana Club and Settlement Mess, for building a pavilion, and for repairs.

Free samples of sawn timber 148 cubic feet valued at R199 were sent to the Burma Railways, and four firms.

54. The following table shows the quantity and value of produce removed free of charge from the forests by District Officers, and villagers.

	Timber.		Fuel.		Bamboos.		Other Minor produce.	Total Value.
	Cubic feet.	Value.	Cubic feet.	Value.	No.	Value.	Value.	
		R		R		R	R	R
Right holders	...	...	...	...	...	...	...	...
Free grantees	79,083	1,593	302,060	7,552	622,317	389	2,901	12,435
Grants at reduced rates	...	...	...	...	...	...	...	...
Total	79,083	1,593	302,060	7,552	622,317	389	2,901	12,435

Section 5. (*c*)

Outturn and Sources of Forest Produce. (Forms 62 and 63.)

55. The following table compares the outturn of the year classified according to agency of exploitation and the kind of produce extracted with the figures of 1910-11 :—

		Timber.	Fuel.	Bamboos.	Minor produce.
		c. ft.	c. ft.	No.	R
Government Agency	1911-12	474,781	1,316,489	33,094	911
	1910-11	753,513	692,280	21,086	793
Purchasers	1911-12	39,641	51,120	58,125	207
	1910-11	38,478	17,400	88,550	439
Free Grantees	1911-12	32,535	260,240	433,800	2,766
	1910-11	35,008	278,880	464,800	2,962
District Officers	1911-12	46,548	41,820	188,517	135
	1910-11	56,676	67,240	352,187	282
Total	1911-12	593,505	1,669,669	713,536	4,019
	1910-11	883,675	1,057,800	926,623	4,476

The decrease in the outturn of timber extracted by Government agency was partly due to the absence of purchasers under the 1912 contract during the latter half of the year under report—and partly due to shortage of labour from about December 1911 onwards as a result of which less timber could be extracted for use of local departments after conversion.

The increase under the head of fuel removed by Government agency was due to the undertaking of the supply of charcoal to the Settlement by the Forest Department. About 8 cubic feet have been taken as the equivalent of one maund of charcoal.

The increase in bamboos and minor produce is due to the departmental supply of bamboos, and canes to the Settlement having been undertaken during the year.

With regard to produce extracted by purchasers the increase under fuel is alone remarkable and may be attributed partly to greater vigilance on the part of the Range Officer, and partly to better demand.

Produce removed by free grantees and District Officers is liable to vary considerably from year to year according to demands for new houses or other buildings.

56. The following table exhibits the timber in the round supplied to the Chatham Sawmill and the outturn obtained.

Year.	Timber sent to saw mill.		Timber received from sawmill.	Percentage of loss in conversion.
	No. of logs.	Volume.		
			Cubic feet.	
1911-12 . . .	6,050	288,598	143,727	50
1910-11 . . .	6,385	356,046	234,307	34

The machinery is not in good order and the shortage of saws was much felt from November to the close of the year. The mill was also closed for two periods aggregating a month on account of breakdowns.

The increase in the percentage of loss by conversion was due to the fact that many hollow logs were sawn which the Executive Engineer refused to saw when the mill was in his charge.

57. The total expenditure of the year on the management of State forests was R66,723.

CHAPTER III.

FINANCIAL RESULTS. (*Forms 64, 65, 66, 67, 68, 69, 70 and 71.*)

58. The income and expenditure of the year are compared with those of the previous year and with the average of the previous five years in the following statement :—

	1911-12.	1910-11.	Average, 1905-10.
	R	R	R
Revenue	4,59,238	4,03,806	3,99,807
Expenditure { A. . . .	1,78,249	2,03,161	2,09,966
Expenditure { B. . . .	53,308	45,072	36,196
Total expenditure . . .	2,31,557	2,48,233	2,46,162
Surplus	2,27,681	1,55,573	1,53,645

The prescribed analysis shows that 99 per cent. of the receipts came from major produce, and 1 per cent. from minor produce, whilst revenue from miscellaneous sources was trifling.

Of the expenditure only 3·4 per cent. was incurred on the constitution and improvement of the forests whilst 73·6 per cent. was incurred in connection with the exploitation of the forests, and about 23 per cent. on the administration and protection of the forests.

The percentage of net income was a trifle over 50 per cent.

59. The outstandings of revenue at the end of the year amounted to R70,349.

The balance of timber in stock on sale and forest depôts at the close of the year amounted to 295,250 cubic feet against 321,623 cubic feet at the close of the previous year.

The balance of firewood in stock in sale and forest depôts at the close of the year was 46,799 cubic feet against 70,300 at the close of the previous year.

The estimated value of timber and other produce stored at sale depôts was R243,145 or R16,899 less than at the commencement of the year.

The value of live and dead stock shows a balance in favour of the year amounting to R17,256.

No elephants died during the year and there are now 50 elephants on the books.

Three buffaloes died during the year, and 3 buffaloes purchased during the year, cost R165 leaving 11 on the books.

The outstandings due to Forest Department by contractors and disbursers representing advances amounted to R341-8-9 at the commencement and R105-11-6 at the close of the year.

CHAPTER IV.

ADMINISTRATION.

60. Mr. C. G. Rogers, Conservator of Forests, Pegu Circle, Burma, inspected the headquarters office, and as much of the Division as possible from the 28th March to the 6th April 1912.

61. Sir H. A. Farrington, Bart., was in charge of the Division until the 7th November 1911, when he was relieved by the writer.

62. Mr. B. P. Kelly, Extra Assistant Conservator of Forests, continued in charge of the Wimberleygunj Subdivision throughout the year, and deserves great credit for successful management of the Settlement fuel supply and the Para rubber plantation.

Mr. M. C. C. Bonig, Extra Assistant Conservator of Forests, as usual did excellent work. He is a very keen and energetic officer, and received the *Kaisar-i-Hind* medal of the first class on the occasion of the Coronation Durbar in December 1911.

His services were placed at the disposal of the Burma Government from the 6th April to the 7th June 1912 when he proceeded on privilege leave.

Mr. A. R. Brown, Extra Assistant Conservator of Forests, arrived in Port Blair on the 28th March 1912 to relieve Mr. M. C. Bonig and was posted to Chatham Subdivision, and carried out his duties to the entire satisfaction of the writer.

Mr. W. H. Miller, Extra Assistant Conservator of Forest, was confirmed in his appointment with effect from the 21st July 1911. His work was not up to the high standard set by the other officers mentioned above.

Mr. C. Alfred, Forest Ranger, continued to work steadily and conscientiously and deserves to be promoted. He had 3 months' privilege leave from 11th November 1911.

Mr. C. E. Parkinson, took second place in passing out of the Forest College in April 1912 and gained the Higher Standard Certificate with Honours, a gold medal, and two other prizes. He joined the Division in April, and was appointed Probationary Extra Assistant Conservator of Forests with effect from the 1st July 1912.

Mr. H. Robertson was appointed Forest Ranger on probation with effect from 27th November 1911. His work was satisfactory and he will be sent to Dehra Dun for training in due course.

Deputy Ranger Kishen Das was reduced to Forester in October 1911 for six months for misconduct.

Foresters were appointed to fill existing vacancies.

63. Head Clerk Khuda Baksh went on sick leave shortly before the end of the year, and died about three months later. He had been unfit for work for some time previously.

The office is undermanned and cannot cope with the work. None of the clerks have any real knowledge of the Forest Department Code or how to prepare returns quickly and accurately.

None of them have any experience of work in a Conservator's office, or in any other forest office but that of the Andamans.

They have however worked with a good will and have tried to keep work up to date. But some necessary work has been left undone, such as sorting old records for destruction, and the proper checking of subordinate returns.

The classification of expenditure in the accounts is faulty, and the keeping of records unsatisfactory, though some improvement has been shown during the last six months.

One clerk resigned his appointment after the expiry of 2½ months' leave granted to him in September 1911.

64. With the transfer of the Chatham Sawmill from the Public Works Department to the Forest Department on the 1st April 1912 the Sawmill Foreman, Mr. R. P. Mullins, holding a First Class Certificate under the Bombay Boiler Act, came on the Forest Establishment, and also the Sawmill Clerk

CHAPTER V.

General.

65. The climbing bamboo (*Dinochloa andamanica*) was again in flower in March-April, and the writer found a specimen in July after the close of the year. Its flowering may not be such a rare event as was hitherto believed.

66. The most important event of the year was the transfer of the Chatham Sawmill to the Forest Department with effect from the 1st April. The mill is primarily intended for the supply of sawn-wood to the Settlement for local public works, and timber can only be sawn for export after local indents are met. Under these conditions a satisfactory export business cannot be developed more especially as local Departments do not forecast their probable requirements of timber, but expect to be supplied on demand.

The machinery is for the most part antiquated and the mill as a whole is badly arranged and inefficient. There are no facilities for handling timber and transporting it in the mill from one saw-bench to another so that excessive labour is employed. And there is no saw for breaking down large logs, the largest being two 72-inch diameter circular saws which can only cut about 30 inches deep. To put these saws through logs of 3 and 4-foot diameter means the probable ruin of a saw costing from Rs. 400 to Rs. 600, as there is no clearance for the sawdust and the saw gets hot and is liable to lose its temper.

67. Proposals were submitted to Government during the year for a semi-portable sawmill to be erected near the extraction camps with the object of

(*i*) converting the hollow *padouk* which is at present wasted and left lying in the forest, and

(*ii*) developing the trade in other timbers which experience has shown to be in demand only in the converted form.

68. The final adjustment of the cost of the new steel hull of the twin-screw steamer "Rosamond" was made in July 1911 and the amount was R20,117.

The total prime cost of this vessel is therefore R94,746 for the new hull, and R49,568 for the boilers, engines, winches, etc., purchased in 1904-05 for the original wooden vessel built locally.

The maximun capacity of the "Rosamond" is about 200 cubic tons with careful stowing.

As she cannot be docked locally the 'Rosamond' left for Calcutta in tow of the R. I. M. S. "Northbrook" on 14th January 1912 and returned to Port Blair under her own steam on 15th April 1912. Some alterations were made in addition to the ordinary refit, and two small steam capstans were added for stowing timber. She was also wired for electric light and a search-light will be fitted later.

The cost of the refit was only partially adjusted during the year R15,011.

69. The steam launch "Eileen" was repaired by the local Marine Department. Her hull is badly corroded and has been patched up as a temporary measure, but heavy repairs and renewal of plates will be necessary in a short time.

70. The oil motor of the "May" was sent to the makers in England who advised that it was worn out and could not be repaired save at very heavy expense. In the meantime the hull was sent to the Royal Indian Marine Dockyard at Kidderpore with the "Rosamond," to be fitted with a small steam engine which was got some years ago for another boat.

The hull was condemned, and a new hull was therefore built at a cost of R931, and the fitting of the boiler and engine cost R1,553 which was adjusted within the year. The new "May" will be very useful to the Working-Plan Officer.

The oil motor of the "Ruby" is also out of order and is required to be repaired or replaced. The hull is in good condition.

71. The steam cutter of the late Station Ship R. I. M. S. "Elphinstone" and two rowboats were purchased from the Royal Indian Marine during the year under report at a cost of R2,969. This steam cutter has been named the "Dorothy."

72. The other boats of the Forest Department consist of two lighters, 21 timber-boats, two house-boats, two Burmese pattern dug-outs, two Bengal dinghies and five jolly-boats. The timber-boats are used for conveying men and rations up the creeks to the extraction camps and for bringing rafts down. Timber which will not float is also slung on timber boats, for conveyance to the mail steamer for export.

A boat repair yard was started towards the end of the year to overhaul all boats in turn as required.

73. In October 1911 Mr. C. Alfred, Forest Ranger, while shifting his camp was carried out to sea in a house-boat with half a dozen men, by a strong tide and wind. Fortunately his anchor with the last foot of chain out caught on a coral bank three miles off shore and he held on there three days and nights in a storm at the set-in of the north-east monsoon The boat had a very narrow escape of being lost with all hands, as the anchor chain ought to have snapped under the severe strains and jerks to which it was subjected during the storm.

This adventure might have been avoided had Mr. Alfred known how to anchor safely while he was in shallow water.

J. L. BAKER,

Deputy Commissioner of Forests,

Andamans.

Annual Forms Nos. 51—69 and Appendix.

Form No. 51.

Area of Reserved and Unclassed State Forests for the Forest year 1911-12.

Division.	Range.	Civil District or Territory.	Name of Forest.	Area on 1st July 1911. Acres.	Area on 1st July 1911. Equivalent in square miles.	Added during the year. Acres.	Excluded or transferred to other heads. Acres.	Area on 30th June 1912. Acres.	Area on 30th June 1912. Equivalent in square miles.	Number and date of Notification of addition or transfer, etc.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12
			Reserved Forests.								
Andamans.		South Andaman Settlement (area 477·68 sq. miles.)	1. Middle Straits	23,411	36·58	...	...	23,411	36·58		In the Jarawa country.
			2. Port Meadows	12,160	19·00	...	...	12,160	19·00		
			3. Shoal Bay	9,728	15·20	...	...	9,728	15·20		
			4. Mount Harriet	25,600	40·00	...	...	25,600	40·00		**Note.**
			5. Hope Town	415	0·65	...	...	415	0·65		The Indian Forest Act is not in force in the Andamans.
			6. Goplakabang	2,085	3·26	...	...	2,085	3·26		
			7. Brigade Creek	2,344	3·66	...	...	2,344	3·66		These forests have simply been declared 'Reserved forests' by executive order.
			8. Namunaghar	1,275	2·00	...	...	1,275	2·00		
			9. Minnie Bay	231	0·36	...	...	231	0·36		
			10. Dhani Khari	8,031	12·57	...	...	8,031	12·57		
			11. Ali Musjid	14,916	23·00	...	...	14,916	23·00		
			12. Navy Bay Teak plantation.	16	0·02	...	...	16	0·02		
				1,00,212	156·	...	...	100,212	156·		
			Unclassed State Forests.								
	...	South Andaman Settlement.	South Andaman				46	177,715	277·68*		* 203·32 square miles in the Jarawa country. (44 square miles cleared for settlement excluded.)
		Other Islands.	1. North Andaman					353,485	552·32		
			2. Middle Andaman					377,216	589·40		
			3. Baratang group					75,904	118·60		
			4. Ritchie's Archipelago	1,149,306	1,796			61,133	95·52		
			5. Rutland					30,490	47·64		
			6. The Labyrinth Islands.					6,797	10·62		
			7. North Sentinel					14·618	22·84		
			8. South Sentinel					538	·84		
			9. Little Andaman					191,718	299·56		
				1,149,306	1,796	...	...	1,288,414	2013· †		† Increase in area due to re-calculation.
			Grand Total	...	1,952	...	...	...	2169·		

Form No. 52.

Statement showing the Progress made in, and the Expenditure incurred on, Forest Settlements during 1911-12.

Name of Forest Division.	Name of Civil District or Territory.	Area already settled at commencement of the year.	AREAS FINALLY SETTLED DURING THE YEAR.						AREAS UNDERGOING SETTLEMENT.						Remarks.
			Number and date of Government order according final sanction to the Settlement.	Name of Forest settled.	Area in square miles.	Expenditure incurred during the year on areas finally settled.		Entire cost per square mile of area finally settled during the year.	At commencement of the year.		Taken in hand during the year.		Expenditure incurred during the year on areas undergoing Settlement.		
						In Forest accounts.	In other accounts.		Name of tract.	Area in square miles.	Name of tract.	Area in square miles.	In Forest accounts.	In other accounts.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
		Sq. Ms.				R	R	R					R	R	
Andamans.	Andamans.	156													

Form

Record of Demarcation and Maintenance

Division.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at close of the year.	Length of boundaries still to be demarcated at close of the year.
1	2	3	4	5	6
	Miles.	Miles.	Miles.	Miles.	Miles.
Andamans	4½	1	74	79½	...

N. B.—Boundaries include besides the outer perimeter, the limits of enclosures of private or otherland

Form

Statement of Forest areas surveyed and

Division.	AREA SURVEYED AND UNDER SURVEY DURING															
	Special surveys—Maps on 4″ scale or over, by Survey of India Department or Forest Survey Branch.								Ordinary included in District Surveys.							
	With interior details.					Boundary surveys.			With interior details.					Boundary surveys.		
	With details of growing stock.		Without details of growing stock.		Total cost.	Previous.	Of year.	Total cost.	With details of growing stock.		Without details of growing stock.		Total cost.	Previous.	Of year.	Total cost.
	Previous.	Of year.	Previous.	Of year.					Previous.	Of year.	Previous.	Of year.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R
Andamans . .	...	...	166	...	...	...	...	...	....	...	2,169	...	...	...	...	...

Form

Progress made in Working

Division.	Areas for which Working-Plans have been sanctioned by Local Government.		Areas for which Working-Plans are being compiled.	
	At commencement of year.	During year.	At commencement of year.	Taken in hand during year.
1	2	3	4	5
	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.
Andamans	317	...	...	...

No. 53.

of Boundaries, 1911-12.

Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year.		Remarks.
		On new work.	On repairs.	
7	8	9	10	11
Miles.	Miles.	R	R	
117½	197	1	1	

within the forests, but not the limits of sub-divisions, such as compartments and coupes.

No. 54.

under survey during the year 1911-12.

THE YEAR 1911-12.										COST.			
CHAIN AND COMPASS OR OTHER SURVEYS BY LOCAL OFFICERS.								Areas remaining to be taken under Survey.	Total Forest area at end of the year, as per Form No. 51.	Previous.	Of year.	Entire cost of all Surveys to end of the year.	Remarks.
WITH INTERIOR DETAILS.					BOUNDARY SURVEYS.								
4-INCH OR OVER.		UNDER 4-INCH.		Total cost.	Previous.	Of year.	Total cost.						
Previous.	Of year.	Previous.	Of year.										
18	19	20	21	22	23	24	25	26	27	28	29	30	31
Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	R	R	
			No record.					...	2,169	(a)	...	...	(a) The cost of the Andaman Survey is not known. None of these Surveys were made specially for the Forest Department. There is no record of any Survey by local officers.

No. 55.

Plans, 1911-12.

Areas for which Working-Plans have still to be taken in hand.	Total Forest area, as in Form No. 51.	Entire cost per square mile, of Working-Plans completed.	Remarks.
6	7	8	9
Sq. Ms.	Sq. Ms.	R	
1,852	2,169	...	Reserved forests . . 156 square miles. Unclassed State forests . 2,013 square miles.

Form

Communications and

Division.	NEW WORK UNDERTAKEN DURING THE YEAR.					
	BUILDINGS.		ROADS AND PATHS.			Total expended on new work.
	Description of Building.	Expenditure incurred.	Road or path and object of the same.	Length of road or path.	Expenditure incurred.	
1	2	3	4	5	6	7
		R		Miles.	R	R
Andamans	Rest house at Long Island (port)	324				
	Officers' rest huts	110				
	Subordinates' huts	129				
	Police Guard and Signallers' huts	102				
	Rations and tool godowns	195				
	Shed for rails at Chatham	28				
	Elephant standings	19				
	Convict barracks and huts	763				
		1,670				

Form

Register of breaches of Forest

FOREST DIVISION.	Cases pending from 1911-12.	NEW CASES OF THE YEAR.				
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Total new Cases of the year.
1	2	3	4	5	6	7
Andamans ...	...	...	4	208 cattles impounded.	...	...
Total ...	...	...	...	...	...	...

No. 56.

buildings, 1911-12.

REPAIRS EXECUTED DURING THE YEAR.						
BUILDINGS.		ROADS AND PATHS.			Total expended on repairs.	REMARKS.
Nature of repairs.	Expenditure incurred.	Nature of repairs.	Length repaired.	Expenditure. incurred.		
8	9	10	11	12	13	14
	R		Miles.	R	R	
Repairs to Assistant Forest Officers' quarters	29	Repairs to Steam Tramways.	6	1,097		
Repairs to subordinates' quarters . . .	43					
Repairs to Police guard huts . . .	13					
Repairs to Engine shed at Wimberleyganj .	5					
Repairs to timber stacking shed at Chatham .	16					
Repairs to convict barracks . . .	453					
	559			1,097	1,656	

No. 57.

Rules during 1911-12.

Total Cases.	DISPOSED OF DURING THE YEAR.						Cases pending at close of year.
	CONVICTIONS.		ACQUITTALS.		TOTAL.		
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
8	9	10	11	12	13	14	15
4	2	2	2	2	4	4	.....
208 cattles impounded.	...	...	...	...	...	...	.....

Form

Area closed and open to

Division.	AREA IN	
	CLOSED TO ALL ANIMALS.	
	Whole year.	Part of year.
	2	3
		Reserved
Andamans	156	...
		Protected
		Nil
		Unclassed
	...	...

Form

Artificial reproduction

Division.	Kind of Plantation.	AREA IN ACRES.			
		On 1st July 1911.	Added during the year.	Excluded during the year.	Area on 30th June 1912.
	Regular.				
Andamans	Padouk (Goplakabang) 1883	4	...	...	4
	Do. (Do.) 1884	5	...	...	5
	Do. (Do.) 1885	16	...	...	16
	Do. (Do.) 1886	20	...	...	20
	Mangrove (Brigade Creek)	442	...	...	442
	Do. (Dhani Khari)	243	...	...	243 (*b*)
	Para rubber (Namunaghar)	1/16	...	...	1/16
	Do. (Goplakabang)	113	16	...	129
	Afzelia and Mahogany (Goplakabang)	12	...	...	12
	Total Regular plantations	855 1/16	16	...	871 1/16
	Taungya.				
	Padouk	1,300	...	...	1,300
	Total Taungya plantation	1,300	...	...	1,300
	Cultural operations.				
	Namunaghar reserve	5	..	5 (*d*)	...
	Rutland	...	35	...	35
	Goplakabang reserve	...	40	..	40
	Do. broadcast sowing in evergreen area	...	100	...	100
	Total cultural operations	5	175	5	175
	Grand total expenditure of year				
	Add expenditure wrongly charged				
	Expenditure according to Form No. 67				

NOTE.—Up-keep includes cleanings, weedings, thinnings, filling up blanks, etc. Cultural operations are

No. 59.

grazing during 1911-12.

SQUARE MILES.

Closed to browsers (camels, goats or sheep).		Open to all animals.	Total area.
Whole year.	Part of year.	Whole year.	
4	5	6	7
Forests.			
...	...	...	156
Forests.			
State Forests.			
...	...	278 (*a*)	...

(*a*) Area of unclassed forests in the South Andaman Settlement.

No. 61.

reproduction for Forest year 1911-12.

Expenditure during the year.		Total expenditure from commencement.		Revenue during the year.	Total revenue from date of creation of plantation.	Remarks.
Creation.	Up-keep.	Creation.	Up-keep.			
₹	₹	₹	₹	₹	₹	
...	...	Not known.				
	...	Do.				
...	...	Do.				
...	...	Do.				
...	107 (*a*)	...	107 (*c*)			(*a*) Wrongly charged to A.viiic. as the produce was saleable. (*b*) Seventy acres re-sown but paid for after close of the year. (*c*) Previous expenditure unknown.
...	1	...	1 (*c*)			
...	...	18	70			
1,655	1,577	2,318	4,350			
...	...	79	188			
1,655	1,685	2,415	4,716			
273	2,468	18,995	17,173			
273	2,468	18,995	17,173			
...	...	...	...			(*d*) Does not come under this head.
167	...	167	...			
80	...	80	...			
138	...	138	...			
385	...	385	...			
6,466						
95						
6,561						

defined in the memorandum appended to Circular No. 10-F., dated the 5th August 1904.

Form

Outturn (in cubic feet, solid) of Timber and Fuel during

Division.	Timber in the rough; Logs.					Timber in the rough; Poles.					Sawn or square Timber.				
	Government.	Purchasers.	Free Grantees.	District officers.	Total.	Government.	Purchasers.	Free Grantees.	District officers.	Total.	Government.	Purchasers.	Free Grantees.	District officers.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.
															I.—Reserved
Andamans	383	...	...	...	383	12,110	20	*16,267	26,095	54,492	...	14,163	...	...	14,163
TOTAL	383	...	...	...	383	12,110	20	16,267	26,095	54,492	...	14,163	...	...	14,163
															II.—Protected
TOTAL	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
															III.—Unclassed
	316,175	...	...	...	316,175	7,115	10	*16,268	20,453	43,846	§138,998	25,448	...	...	164,446
TOTAL	316,175	...	...	...	316,175	7,115	10	16,268	20,453	43,846	138,998	25,448	...	...	16,446
															IV.—Leased
TOTAL	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL	316,558	...	...	...	316,558	19,225	30	*32,535	46,548	98,338	138,998	39,611	...	...	178,609

Charcoal should be shown by its equivalent in fuel, the quantity of

In the "Remarks" column of this form it should be shown which of the figures entered in it are *actual*, and

No. 62.

the Forest year 1911-12 and Agency of Exploitation.

Miscellaneous.					Fuel.						Remarks.
Government.	Purchasers.	Free Grantees.	District officers.	Total.	Government.	Purchasers.	Free Grantees.	District officers.	Total.	Total Outturn.	
(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	
Forests.											
...	...	...	...	...	‡1,084,480	...	†130,120	13,600	1,228,200	1,297,238	*An estimate based on number of free grantees huts, 10 bullies = 5 cubic feet, 2 posts = 10 cubic feet, are allowed for each house.
...	...	...	...	...	1,084,480	...	130,120	13,600	1,228,200	1,297,238	† There are 2,169 house-holders and quantity of fuel removed per house is estimated at 1½ cord = 80 cubic feet solid.
Forests.—Nil.											
...	...	...	...	...	...	...	...	...	...	...	
State Forest.											
...	...	...	...	...	‡232,009	51,120	130,120†	28,220	441,469	965,936	‡ Including charcoal of 7 cubic feet solid to a maund.
...	...	...	...	...	232,009	51,120	130,120	28,220	441,469	965,936	§ Logs squared with axe.
Forests.—Nil.											
...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	‡1,316,489	51,120	260,240‡	41,820	1,669,669	2,263,174	

wood consumed in producing it being entered in cubic feet solid.
which are only *estimates*, it being also noted in the latter case how the figures have been arrived at.

Form No. 63.

Outturn of Minor Forest Produce during the year 1911-12.

Description of produce.	PRODUCE REMOVED OR UTILIZED.										Remarks.
	By Government Agency.		By Purchasers.		By Free grants.		By District Officers.		Total.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
1	2	3	4	5	6	7	8	9	10	11	12
		R		R		R		R		R	
	I.—Reserved Forests.										
Bamboos . . No.	4,469	3	17,050	10	216,900	136	35,818	22	274,237	171	The columns 6 and 7 are estimates based upon the following data :—
Canes . . „	3,015	2	5,450	3	43,380	27	1,100	1	52,945	33	2,169 self-supporters and free residents' houses each of which is allowed—
Canes with roots . „	...	...	430	1	...	...	...	...	430	1	200 bamboos.
Thatching leaves . Bdls.	493	31	1,624	101	21,690	1,356	1,190	74	24,997	1,562	40 canes.
Bark . . . lbs.	99,461	699	...	...	...	...	...	...	99,461	699	20 bundles thatching leaves annually.
											All the other figures are actuals.
Total .	...	735	...	115	...	1,519	...	97	...	2,466	
	II.—Protected Forests.										
	Nil.										
	III.—Unclassed State Forests.										
Bamboos, ordinary No.	28,500	18	41,075	26	216,900	136	152,699	95	439,174	275	
Bamboos, poling . „	100	13	...	...	...	...	...	...	100	13	
„ rods . „	25	6	...	...	...	...	...	...	25	6	
Canes . . „	202,995	127	15,475	10	43,380	27	78,766	49	340,616	213	
Thatching leaves . Bdls.	629	39	1,449	91	21,690	1,356	183	11	23,951	1,497	
Reeds . . No.	5,000	13	...	...	...	...	...	...	5,000	13	
Pan leaves . Man-load	...	...	17	1	...	...	...	...	17	1	
Total .	...	216	...	128	...	1,519	...	155	...	2,018	
	IV.—Leased Forests.										
	Nil.										
Grand Total .	...	951	...	243	...	3,038	...	252	...	4,484	

In the "Remarks" column of this form it should be shown which of the figures entered in it are *actuals* and which are only *estimates* it being also noted in the latter case how the figures have been arrived at.

Form No. 64.

Account of Timber and other Produce cut or collected by Government Agency and brought to Depôts, sold locally, or otherwise disposed of, during the year 1911-12.

Name of Division.	Balance at commencement of the year in forests and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in forests and sale depôts.
1	2	3	4	5	6
			Padouk.		
	137,168	485,564	622,732	427,537	195,195
			Koko.		
	3,196	3,116	6,312	4,833	1,479
			Black Chuglam.		
	5,416	4,010	9,426	6,424	3,002
			Pyinma.		
Andamans	12,875	44,365	57,240	49,836	7,404
			Marblewood.		
	736	6	742	155	587
			Satinwood.		
	...	4	4	4	...
			Other timber.		
	162,232	385,600	547,832	460,249	87,583
			Firewood.		
	70,300	1,316,489	1,386,789	1,339,990	46,799
Total	391,923	2,239,154	2,631,077	2,289,028	342,049

Form No. 65.

Abstract showing the Value of Timber and other Produce at Sale Depots for the year 1911-12.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.	
	No.	C. ft.	Value.	No.	C. ft.	Value.	In favour of the year.	Against the year.		
1	2	3	4	5	6	7	8	9	10	
			R			R	R	R		R
Logs	4,600	246,211	1,78,250	5,898	245,254	1,91,122	12,872	...	For	12,872
Planks and scantlings	...	75,412	78,279	...	49,996	49,315	...	28,964	Against	29,771
Firewood and charcoal	...	70,300	3,515	...	46,799	2,708	...	807	Against	16,899
Total	4,600	391,923	2,60,044	5,898	342,049	2,43,145	12,872	29,771		

Form No. 66.—[*Prescribed.*]

Abstract showing the Value of Live and Dead Stock for the year 1911-12.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in value.		Remarks.	
	No.	Value.	No.	Value.	In favour of the year.	Against the year.		
1	2	3	4	5	6	7	8	
		R		R	R	R		
Elephants	50	87 000	50	78,300	...	8,700		
Buffaloes	11	523	11	591	68	...		
Dinghi	4	350	4	332	...	18		
Foresters' Boat	1	615	1	598	...	17		
Jolly Boats	1	175	4	754	579	...		
House Boats	...	...	2	1,904	1,904	...		
Boats, timber towing	23	11,970	21	10,720	...	1,250		
Sailing Boat "Sunbeam"	...	...	1	338	338	...		
Lighters	2	1,600	2	1,530	...	70		
Steam Cutter "Dorothy"	...	...	1	2,485	2,485	...		
" "May"	...	...	1	2,424	2,424	...		
Steam launch "Eileen"	1	11,072	1	8,404	...	2,668		
Steam Vessel "Rosamond"	1	1,18,283	1	1,29,174	10,891	...		
Oil Motor boats	2	2,520	1	300	...	2,220	1 condemned.	
Carts, small	7	162	7	146	...	16		
Crane	1	162	1	154	...	8		
Portable Tramway	miles 25¾, 1 locomotive, 90 trucks, 3 trollies.	82,170	miles 25¾ 1 locomotive, 77 trucks, 4 trollies.	74,407	...	7,763		
Saw Mill	...	...	...	15,860	15,860	...		
Miscellaneous stores such as ropes, axes, etc.	...	29,840	...	35,792	5,952	...		
Butting engines	...	2,650	...	2,600	...	50		
Office furniture	...	442	...	576	134	...		
Buildings	...	12,466	...	11,236	...	1,230		
Mathematical Instruments	...	...	...	631	631	...		
							For	R 41,266
							Against	24,010
							For	17,256
Total	...	3,62,000	...	3,79,256	41,266	24,010		

Form No. 67.—[*Prescribed*].

Annual Summary of Revenue of the Andamans Division during 1911-12.

REVENUE.

		R *a.* *p.*	
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FOREST BY GOVERNMENT AGENCY—			
(*a*) Timber		4,17,618	0 0
(*b*) Firewood and charcoal		31,800	0 0
(*c*) Bamboos		80	0 0
(*d*) Sandal-wood		...	
(*e*) Grass and other minor produce		2,801	0 0
TOTAL I		4,52,299	0 0
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS—			
(*a*) Timber		5,931	0 0
(*b*) Firewood and charcoal		106	0 0
(*c*) Bamboos		36	0 0
(*d*) Grazing and fodder grass		...	
(*e*) Other minor produce		207	0 0
(*f*) Other items		...	
(*g*) Commutation fees		...	
TOTAL II		6,280	0 0
III.—DRIFT AND WAIF WOOD AND CONFISCATED FOREST PRODUCE		...	
TOTAL III		...	
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—			
(*a*) Duty on foreign timber and other forest produce		...	
(*b*) Revenue from shared and private forests		...	
TOTAL IV		...	
V.—MISCELLANEOUS—			
(*a*) Fines and forfeitures		...	
(*b*) Refunds		104	0 0
(*c*) Other sources		555	0 0
TOTAL V		659	0 0
GRAND TOTAL REVENUE		4,59,238	0 0

Form No. 67.—[*Prescribed.*]

Annual Summary of Expenditure of the Andamans Division during 1911-12.

A.—CONSERVANCY AND WORKS.

	Rs.	a.	p.
I.—Timber and other produce removed from the forests by Government Agency—			
(*a*) Timber	1,23,028	0	0
(*b*) Firewood and charcoal	16,938	0	0
(*c*) Bamboos	2	0	0
(*d*) Sandal-wood	...		
(*e*) Grass and other minor produce	1,253	0	0
Total A. I.	1,41,221	0	0
II.—Timber and other produce removed from the forests by consumers or purchasers	...		
Total A. II.	...		
III.—Drift and waif wood and confiscated forest produce	...		
Total A. III.	...		
IV.—Revenue from forests not managed by Government—			
(*a*) Duty on foreign timber and other forest produce	...		
(*b*) Revenue from shared and private forests	...		
Total A. IV.	...		
V.—Rent of leased forests and payments to Shareholders in Forests managed by Government	...		
Total A. V.	...		
VI.—Live-Stock, Stores, Tools and Plant—			
(*a*) Purchase of cattle	1,121	0	0
(*b*) Feed and keep of cattle	16,386	0	0
(*c*) Purchase of stores, tools and plant	6,105	0	0
Total A. VI.	23,613	0	0
VII.—Communications and Buildings—			
(*a*) Roads and bridges	1,097	0	0
(*b*) Buildings	2,229	0	0
(*c*) Other works	...		
Total A. VII.	3,326	0	0
VIII.—Organization, improvement and extension of Forests—			
(*a*) Demarcation	2	0	0
(*b*) Cost of Forest Settlements; compensation for land and rights	...		
(*c*) Surveys	...		
(*d*) Working-plans	...		
(*e*) Sowing and planting	6,561	0	0
(*f*) Protection from fire	...		
(*g*) Other works	1,249	0	0
Total A. VIII	7,812	0	0
IX.—Miscellaneous—			
(*a*) Law charges	...		
(*b*) Other charges	2,277	0	0
Total A. IX	2,277	0	0
Total A.—Conservancy and Works	1,78,249	0	0

Form No. 67.

Annual Summary of Expenditure of the Andamans Division during 1911-12.

		R	*a.* *p.*
Brought forward, Total A.—Conservancy and Works		1,78,249	0 0
B.—ESTABLISHMENTS.			
I.—SALARIES—			
(*a*) Conservators		...	
(*b*) Superior officers		26,955	0 0
(*c*) Subordinate forest and depôt establishments		9,375	0 0
(*d*) Office establishments		4,034	0 0
(*e*) Deputation and special allowances		6,361	0 0
(*f*) Exchange compensation allowance		...	
(*g*) Royal Visit Bonus		220	0 0
TOTAL B. I		46,945	0 0
II.—TRAVELLING ALLOWANCES—			
(*a*) Conservators		...	
(*b*) Superior officers		4,551	0 0
(*c*) Subordinate forest and depôt establishments		997	0 0
(*d*) Office establishments		...	
TOTAL B. II		5,548	0 0
III.—CONTINGENCIES—			
(*a*) Stationery		...	
(*b*) Carriage of tents and records		...	
(*c*) Rents, rates and taxes		...	
(*d*) Pay of police guards		...	
(*e*) Official postage		335	0 0
(*f*) Sundries		480	0 0
TOTAL B. III		815	0 0
TOTAL B.—ESTABLISHMENTS		53,308	0 0
GRAND TOTAL OF EXPENDITURE		2,31,557	0 0
SURPLUS OR DEFICIT		2,27,681	0 0

Form No. 68.—[*Prescribed.*]

Account Current for the Forest year 1911-12.

RECEIPTS.						PAYMENTS.					
	₹	a.	p.	₹	a.	p.		₹	a.	p.	₹ a. p.
Cash balance	...			352	10	5	I.—Refund and drawbacks	...			4 8 9
VIII.—Assessed Taxes—							Expenditure during the Forest year 1911-12	...			2,31,556 9 11
Income tax—deductions from salaries	...			810	5	4	Forest advances	...			9,887 5 1
Revenue during the Forest year 1911-12	...			4,59,237	14	3					
Forest advances	...			10,123	2	4	Savings Bank Deposits—				
Service Funds—							Bank Account—				
Bengal and Madras Service Fund	336	3	2	336	3	2	General Provident Fund	84	0	0	84 0 0
Savings Bank Deposits—							Cash Remittances—Local—Forest Remittances—				
Bank Account—											
Forest Officers' Provident Fund	99	0	0	...			Remittances to Treasuries	3,31,241	6	4	...
General Provident Fund	3,958	12	0	...			Inter-divisional Transfers	4	12	11	3,31,246 3 3
General Family Pension Fund	...			4,057	12	0					
Cash Remittances—Local—Forest Remittances—							Accounts between India and Burma—				
Forest Cheques drawn	74,446	13	7	...			III.—Items Adjustable by India	30,249	4	2	...
Inter-Divisional Transfer	970	8	0	75,417	5	7					
Accounts between India and Burma—							Accounts between India and Bengal—				
III.—Items Adjustable by India	2,024	11	4	...			IV.—Items Adjustable by Bengal	44,258	4	2	...
IV.—Items Adjustable by Burma	3	0	0	...							
Accounts between India and Bengal—							Accounts between India and Punjab—				
III—Items Adjustable by India	25,498	14	0	...			IV.—Items Adjustable by Punjab	60	9	3	...
Accounts between India and United Provinces of Agra and Oudh—											
III.—Items Adjustable by India	234	8	0	...			Accounts between India and Madras—				
Accounts between India and Bombay—							III.—Items Adjustable by India	6,858	10	3	81,426 11 10
IV.—Items Adjustable by Bombay	...			27,761	1	4					
Inter-Departmental Transfers—							Inter-Departmental Transfers—				
Telegraph Department	...			252	8	0	Marine Department	...			5,209 0 9
Post Office do.	...			264	2	8	Civil do.	...			41,363 7 0
Marine do.	...			46,590	12	9	Closing balance	...			2 8 11
Civil do.	...			75,576	9	8					
GRAND TOTAL	...			7,00,780	7	6	GRAND TOTAL	...			7,00,780 7 6

Annual Form No. 69.

Revenue received and Outstandings on account of revenue during 1911-12.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realised during year.	Balance due to the Department end of year.	Remarks.
		R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	
Andamans	Revenue from timber, and other produce removed by Government Agency.	1,23,783 10 2	3,98,864 15 2	5,22,648 9 4	4,52,299 0 6	70,349 8 10	
	Other Revenue	...	6,938 13 1	6,938 13 11	6,938 13 1	...	
	Total	1,23,783 10 2	4,05,803 13 3	5,29,587 7 3	4,59,237 14 7	70,349 8 10	

Annual Form No. 70.

Outstandings and Liabilities on account of Contractors and Disbursers for the Forest year 1911-12.

Division.	Department Debtor.			Department Creditor.			Balance Due.	
	Opening balance.	Recoveries in cash and value of supplies and work done durin Forest year 1911-12.	Total.	Opening balance.	Payments made during Forest year 1911-12.	Total.	To Department (Outstandings).	By Department (Liabilities).
1	2	3	4	5	6	7	8	9
	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.
Andamans Forest Division.	...	10,123 2 4	10,123 2 4	341 8 9	9,887 5 1	10,228 13 10	105 11 6	...
Total	...	10,123 2 4	10,123 2 4	341 8 9	9,887 5 1	10,228 13 10	105 11 6	...

Annual Form No. 71.

Financial results of the year 1911-12.

Division.	Timber and other produce removed from the forests by Government Agency.		Other Revenue.		Formation, protection and improvement of forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
1	2	3	4	5	6	7	8	(9)
	R	R	R	R	R	R	R	
Andamans	4,52,299	2,08,308	6,939	1,000	22,249	4,59,238	2,31,557	
Total	4,52,299	2,08,308	6,939	1,000	22,249	4,59,238	2,31,557	

Appendix I.

Descriptive roll of Elephants in the Andamans Forest Division.

Serial No.	Name of elephant.	Sex.	Height. Feet.	Height. Inches.	Date of receipt.	Estimated age 31st March 1892 or on date of receipt if received later.	Present age.	Number of years elephant has been working. Y.	Number of years elephant has been working. M.	Condition.	No. of days. At work.	No. of days. At rest.	No. of days. Sick.	Cost price.	Remarks.
1	2	3	4		5	6	7	8		9	10			11	12
1	Hannah	Female	7	6	Before July 1891.	33	53	More than 21	0	Fair	131	234	1	...	
2	Bhairon Pershad (Tusker).	Male	8	4	December 1895.	32	49	„ 16	6	Good	135	172	59	3,488	
3	Australia	Female	7	7½	Before March 1883.	28	48	„ 26	0	Good	308	58	...	...	
4	Viper	„	7	10¾	Do.	36	56	26	0	Fair	189	177	...	...	
5	Lachmi	„	7	8	April 1891	32	53	21	0	Poor	...	...	366	3,025	
6	Sth Pah (Tusker)	Male	8	4	March 1894	33	51	18	0	Fair	137	137	92	3,538	
7	Bhokaung do.)	„	8	4	Do.	36	54	18	0	Good	231	133	2	4,038	
8	Shive Daung (Tusker).	„	7	11	Do.	34	52	18	0	Do.	200	122	44	3,238	
9	Paul (Tusker)	„	8	8	March 1895	30	47	17	0	Do.	231	104	1	3,763	
10	Adolphus (Tusker).	„	7	11	Before March 1885.	23	43	More than 26	0	Do.	312	54	...	...	
11	Pagi	Female	7	9	March 1894	32	50	18	0	Do.	284	82	...	2,713	
12	Wellington (Tusker).	Male	8	3¼	March 1895	35	52	17	0	Do.	249	117	...	3,855	
13	Maxie	Female	8	7½	Born in January 1886.	6	26	10	0	Very good	265	101	...	...	
14	Aurangabad	„	7	8	May 1892	1	37	20	0	Good	319	47	...	2,530	
15	Jangi Puri	„	7	10½	April 1891	27	48	21	0	Fair	267	85	13	3,025	
16	Mah Pah	„	7	11	March 1894	31	51	18	0	Good	191	158	17	2,813	
17	Behram (Tusker)	Male	8	7	December 1895.	28	45	16	6	Very good	230	135	1	3,355	
18	Goolabi	Female	7	9	March 1895	40	57	17	0	Good	194	95	77	2,605	
19	Chester Bahadur	Male	8	4	Born in August 1897	...	15	...		Very good	234	131	1	...	(Late Diamond Jubilee.)
20	Schlich Bahadur	„	7	5	Born in January 1900.	...	13	...		Good	214	152	...	...	(Late Nineteen Hundred.)
21	Mabel	Female	8	1	11th February 1902	28	38	10	4	Fair	14	40	312	4,523	
22	Sooraj Mookhie	„	...	...	Do.	33	43	10	4	Good	...	...	...	4,523	Let loose.
23	Lil	„	8	...	Do.	30	40	10	4	Do.	302	64	...	4,523	
24	Gulbadan	„	7	9	Do.	26	36	10	4	Do.	221	118	27	4,523	
25	Rani	„	...	...	Do.	30	40	10	4	Poor	...	...	...	4,523	Let loose.
26	Moti Mallah	„	7	10	Do.	25	35	10	4	Very good	236	93	7	4,523	
27	Delhi	„	7	10	Do.	26	36	10	4	Good	305	61	...	4,523	
28	Meerut	„	8	4	Do.	27	37	10	4	Do.	303	63	...	4,523	
29	Bhola Nath (Tusker).	Male	8	5	28th January 1903.	30	39	9	5	Poor	251	102	13	5,914	
30	Amir (Tusker)	„	8	4	Do.	23	32	9	5	Good	290	45	31	5,915	
31	Gopal Das (Tusker).	„	9	...	Do.	25	34	9	5	Do.	252	74	39	6,215	
32	Latchmi Pershad (Tusker).	„	9	2	Do.	30	39	9	5	Do.	255	108	3	6,415	
33	Sunder Pershad (Tusker).	„	9	1	Do.	25	34	9	5	Do.	280	71	15	5,915	
34	Singesur Pershad (Tusker).	„	8	7¾	3rd January 1905.	30	37	7	6	Do.	231	91	14	6,464	
35	Ganga Pershad (Tusker).	„	8	4½	Do.	25	32	7	6	Do.	294	72	...	6,464	
36	Panjey (Tusker)	„	8	7½	26th April 1903.	28	34	6	2	Very good	259	107	...	6,312	
37	Tuang (do.)	„	7	10	Do.	28	34	6	2	Good	246	73	47	6,312	
38	Kowal	Female	7	9	Do.	28	44	6	2	Do.	285	77	3	6,312	
39	Madhoo	„	8	...	Do.	23	29	6	2	Do.	303	63	...	6,312	
40	Me Pu	„	7	1	21st February 1907.	40	45	5	5	Do.	239	127	...	4,972	
41	Arnold (Tusker)	Male	8	8	Before July 1891.	41	61	21	0	Fair	304	62	...	...	
42	Luchminia	Female	7	2	25th May 1911.	22	23	1	1	Poor	162	201	3	4,693	
43	Pawan Peari	„	7	5	Do.	32	33	1	1	Good	176	190	...	5,543	
44	Meg Mala	„	6	10	Do.	20	21	1	1	Do.	7	327	32	4,392	
45	Dharam Peari	„	7	...	Do.	30	31	1	1	Do.	33	333	...	5,543	
46	Joy Mati	„	4	5	Do.	2½	3½	...		Good (calf)	...	...	...	375	Calf of Dharam Peari
47	Sunder Mala	„	7	3	Do.	30	31	1	1	Good	25	213	128	4,993	
48	Madhu Mala	„	7	3	Do.	28	29	1	1	Do.	180	185	...	5,093	
49	Bateswar	„	7	1	Do.	30	31	1	1	Do.	124	242	...	5,093	
50	Sudamani	„	6	3	22nd June 1911.	14	15	1	0	Do.	13	353	...	3,2 0	

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4

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE ANDAMANS

FOR

1912-13

DELHI
SUPERINTENDENT GOVERNMENT PRINTING, INDIA
1913

No. C. C.—205., dated the 12th September 1913.

From—J. L. BAKER, Esq., Deputy Conservator of Forests, Port Blair,

To—The Superintendent of Port Blair.

I beg to submit my report on the Forest Administration in the Andamans for the year ending 30th June 1913.

was in excess owing to special operations in connection with the survey and the working plan of the Middle and South Andamans.

8. Mr. Baker administerted the department efficiently during the year and received valuable assistance from Mr. B. P. Kelly and Mr. M. C. Bonig. Mr. Kelly went to Mergui on return from his leave to study the process of manufacturing rubber and has taken great interest in the improvement of the plantations. Mr. Bonig, whether at headquarters or in camp, has as usual been both indefatigable and efficient.

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Report on the Forest Administration in the Andamans for the year 1912-13.

CHAPTER I.

CONSTITUTION OF STATE FORESTS.

SECTION I.—ALTERATION IN AREA. (*Form 7.*)

1. THE Navy Bay Teak plantation, area 16 acres, was struck off the list of Reserved Forests with effect from the 12th July 1912.

It is of no value having been planted many years ago in an unsuitable locality, with the plants too far apart. Grazing seems to have gone on from the beginning, for no trees of indigenous species have sprung up among the teak to drive them upwards and the result is that they are branched low down and will never grow into timber trees.

The total area of Reserved Forests remains unchanged.

2. About 70 acres of unclassed forest are reported by District Officers to have been cleared for cultivation in the South Andaman Settlement.

SECTION II.—FOREST SETTLEMENTS. (*Form 8.*)

3. No area was declared Reserved Forest during the year.

SECTION III.—DEMARCATION. (*Form 9.*)

4. No demarcation or repair of boundaries was carried out during the year.

SECTION IV.—FOREST SURVEYS. (*Form 10.*)

5. The survey of the Middle Andaman, area 589 square miles, was begun on the scale of two inches to one mile.

As it was not in the programme of the Survey of India it was decided to carry out the work as a local survey in conjunction with the collection of data for the Working-plan and the Superintendent of the Eastern Circle of the Survey of India lent the services of four Surveyors on deputation to this Division.

They arrived on the 30th October 1912 with 48 khalasis recruited in the Hazaribagh District.

They took the field on the 7th November 1912 and left at the onset of the monsoon on the 10th May 1913.

During the 5 months they accomplished 267 linear miles of theodolite traverse, with 4,853 stations and 72 sun azimuths and Surveyor Amrit Ram fixed two additional trigonometrical stations as there were only 3 in the whole area. Of the above Mr. C. E. Parkinson did 12 linear miles, 160 stations, and 3 sun azimuths in 23 days.

6. It was important to get the traversing completed at least for the padouk-bearing areas in order that these might be plane-tabled in the following season, so Mr. C. E. Parkinson, Probationary Extra Assistant Conservator, learnt traversing with the theodolite and carried on the work while the triangulation was in progress, and he also completed some short portions which the Surveyors could not finish before they were withdrawn to catch the mail steamer to Calcutta.

Two Surveyors proceeded on leave, and the other two proceeded to Shillong for recess to do the computation and plotting of the traverses in the office of No. 12 Party of the Survey of India.

7. After the close of the year the Superintendent of the Eastern Circle wrote that for want of proper professional supervision the traversing was not as satisfactory as it should be and suggested placing the detachment in charge of a Provincial Survey Officer for next season. This though more expensive will result in a much better map.

Owing to the scarcity of labour and the difficulty in which the Working-Plan Officer found himself in having to look after two different kinds of work the traversing was no doubt to some extent subordinated to the Working-plan enumeration work, in that to avoid extra expense in clearing lines, and to save time which was thought to be an important object, the surveyors were told to run their traverses along the enumeration base lines, and these probably were not always the best routes for the traverses to follow.

The Surveyors worked well under considerable difficulties and hardships such as the complete absence of any local supplies and fresh vegetables. Sometimes they even ran short of food for a day or two, whilst in the dense forest progress was always slow, and in the mangrove swamps and cane brakes very uncomfortable too.

8. The total expenditure on the constitution of State forests was R12,404 representing the cost of the survey operations only.

CHAPTER II.

MANAGEMENT OF STATE FORESTS.

SECTION I.—REGULATION OF MANAGEMENT.

(*a*) *Preparation and Control of Regular Working-plans.* (*Form 11.*)

9. The Working-plan for the North Andaman continued in abeyance.

Proposals were duly submitted for working this Island departmentally with imported labour as mentioned in paragraph 7 of last year's report, and it was subsequently decided to await the completion of the enumerations in the Middle Andaman with a view to a possible rearrangement of the scheme of fellings in both Islands.

Towards the end of the year however there were inquiries from two parties who contemplated taking a lease of these forests, but without any result up to the time of writing. It will probably be better after all to lease this Island for the extraction of timber under the Working-plan than to attempt to work it departmentally owing to the inevitable changes of officers which militate against efficient working.

Moreover private enterprise would devote its entire energies to the extraction and conversion of timber whereas Forest Officers would have to do sylvicultural work in addition.

The results of enumerations in the Middle Andaman and of the departmental working of the *padouk* forests in recent years show that the estimate of the output of *padouk* in the Working-plan for the North Andaman needs revision. A report will be submitted to the Inspector General of Forests on this subject.

10. None of the compartment lines in the North Andaman could be cleared during the year as all the available staff and labour were engaged on the Working-plan enumerations in the Middle Andaman.

For the same reason the sample plot in Port Cornwallis could not be visited. The hypertrophic growth which takes place in the development of buttresses on the smaller stems soon vitiates the girth measurements. Annual visits are necessary in order to shift the place of measurement higher up the stem when necessary.

11. With reference to paragraph 9 of last year's report the Government of India sanctioned the preparation of a Working-plan for the forests other than those of the North Andaman in their letter No. 610 F.—130-2, dated the 15th August 1912, and also a survey on the scale of two inches to the mile in conjunction with the Working-plan.

12. Mr. M. C. C. Bonig, Extra Assistant Conservator of Forests, was appointed Working-Plan Officer in charge of the enumerations. Six enumerators were engaged in Burma, but by the end of the season it was found that men of long experience in the forest camps were even better, where there is an efficient system of check.

The free Burmans when they got tired of the work were inclined to shirk and to take their figures from convict line cutters and two of them had to be suspended. Selected convicts were found to work more honestly.

13. The enumerations were carried out in the following manner. First, base lines were cleared north and south and east and west at convenient intervals for tapping the areas which they traversed. These lines were cleared about 8 feet wide and in our experience these lines will be traceable for some years—more especially as in most cases the surveyors ran their traverses along these lines and their posts will remain for some time—and will be replaced at the intersections by stone marks later on.

Then from these base lines, offset lines were run at every ten chains on either side—and extended until either mangrove swamp or permanent evergreen forest was reached. On these lines only *padouk*, *pyinma* and *koko* were enumerated for a width of one chain on each side of the line, except on every eighth line, *i.e.*, at every mile, when other useful species were also enumerated such as Dipterocarps, Terminalias, Myristica Irya, Planchonia, etc.

These other species were also enumerated on the base lines.

14. An efficient system of check was devised by Mr. Bonig which was carried out as follows:—

Each line was divided into sections of ten chains—numbered on blazed trees. The checking staff used to check at least one section in each mile and in the aggregate it amounted to one-fifth of the length of all the lines. The enumerators could not possibly know which sections of their lines would be checked, and if any material difference was found the enumerator was sent back to do the whole line again.

15. As a result of the check it was found that while the totals of trees in a line agreed very well differences were found between the enumerators and checking staff as to soundness and the number of the first class trees. The differences between checkers and enumerators were more or less constant, so that it was decided to accept the totals of the enumerators and the proportions between girth classes and of soundness as found by the checkers.

16. The total length of enumeration lines exclusive of base lines was 1,288 miles through *padouk* forest and 387 miles through evergreen forest which usually occurred in patches on hills and alongside river beds in the *padouk* areas. The width of line enumerated was 2 chains, thus every 5 chains of length covered an area of 10 acres.

17. These lines were plotted on an outline map enlarged to the scale of two inches to the mile and they give a tolerably accurate picture of the situation and extent of the *padouk* forest with patches of evergreen forest interspersed—and this map can be used to lay off compartments when the proper survey map is completed and it also shows the number of *padouk* trees in each area in graphic form.

18. The area of *padouk* actually enumerated was 32·2 square miles representing one-fifth of the total area 161 square miles traversed by the enumeration lines. The figures for *padouk* given below are therefore multiplied by 5 after correction in accordance with the check enumeration to get the growing stock on the whole area enumerated.

Padouk enumerations.

Girth classes.	Sound.	Unsound.	Calculated stock on the whole area of *padouk* forest.	
1½ to 3 ft.	3,567	122	19,445	610
3 to 4½ ft.	4,343	192	25,005	1,385
4½ to 6 ft.	6,789	441	38,895	2,775
6 to 7½ ft.	7,784	983	45,840	5,550
7½ to 9 ft.	20,812	10,534	38,895	13,890
9 and over			30,560	55,565
			1,98,640	79,165

19. It will be noticed how large a percentage of unsound trees is found in the highest girth class.

In order to arrive at the proportions obtaining in still higher girth classes Mr. Bonig personally measured 600 trees and found that the limit of exploitable size lies between 9 and 10 feet. Above 11 feet girth the proportion of unsound to sound trees increases very rapidly.

20. The organisation of supply and transport for a body of 300 men threw a great deal of work upon the shoulders of the Working-Plan Officer whose local knowledge and experience of the conditions stood him in good stead.

In the dense and trackless forest human porterage was the only transport available and with camps scattered in different directions it involved frequent rapid marches with the lightest of kit to see that the arrangements did not break down—for without food for the men (as happened occasionally) all work would at once come to a standstill.

The difficulties were greatly increased for the Working-Plan Officer by his having to look after the Surveyors and their men in addition to his enumeration squads. It was really more than one man could undertake.

Mr. Bonig deserves very great credit for the power of organising which he has displayed and for the great interest which he has taken in the Working-plan outside the mechanical but arduous work of collecting data and statistics for its compilation.

The cost of the season's operations was R10,314 exclusive of the salaries of the Working-Plan Officer and the permanent establishment working under him which are debitable to establishment.

(b) Preliminary Working-Plan report.

21. It is proposed to make a rough exploration of the Little Andaman, area 300 square miles, and of some of the Nicobar Islands, and if they are found to contain valuable timber which is capable of being worked a preliminary Working-plan report will be submitted in due course. There are no other areas for which a Working-plan is required.

(c) Annual plan of operations.

22. Owing to all the available staff and labour being engaged on the Working-plan enumerations and survey work it was not possible to do more than the absolutely necessary work to fulfil contract obligations, and to supply the Settlement with timber fuel and certain minor produce.

Section II.—Communications and Buildings. (*Form 12.*)

(a) Roads and Bridges.

The Wimberleygunj Steam Tramway.—The total length of permanent way and the rolling stock remained the same as detailed in last year's report.

Wooden sleepers 1,560 were renewed.

The maintenance of the permanent way cost R1,066 as against R1,097 last year.

There were transported over the line 6,905 cords of fuel valued at R27,620 against 7,026 cords in the previous year.

24. Temporary lines were 3·94 miles in length and cost for construction maintenance and lifting R1,331 against R1,026 in the previous year. The cost was charged as usual to *A. i. b.*

Yards 4,393 of temporary line were laid against 3,235 in the previous year, of which 3,608 yards were high level lines in the forest running along contours to conduct fuel to chutes or slides to carry the fuel down the hill-side to within easy reach of the permanent line.

25. Mr. B. P. Kelly, Extra Assistant Conservator of Forests, constructed 6 fuel chutes which were an unqualified success : he also used a wire rope at one felling area. He deserves credit for introducing these labour-saving devices for the extraction of fuel.

(*b*) *Buildings.*

26. *Permanent buildings.*—The Long Island Rest House was not completed for want of labour. Mat walls have been put up for the present so that it is habitable. A sum of R161 was spent on it.

A site was cleared at Chatham for a boat repair shed at a cost of R45.

Houses for subordinates cost R22 and others cost R119.

Repairs to the barracks at Wimberleygunj cost R309 and to other buildings R58.

The total expenditure charged in Form 12 is R714.

27. *Temporary buildings.*—These consist of bamboo and cane leaf huts at forest camps for the men, for police and for the forest staff. The total cost amounted to R325 against R1,318 in the previous year. These are now charged to departmental extraction of timber.

(*c*) *Miscellaneous Works.*

28. A sum of R45 was spent on clearing jungle around the rest-house at Long Island, and is shown on Form No. 12.

Section 3.—Protection of Forests.

(*a*) *General Protection.* (*Form 13.*)

29. There were six cases of unauthorised felling involving eight persons who were prosecuted. In three cases involving five persons one was fined R10 and three others R5 each whilst the fifth was acquitted, and the other three cases resulted in the acquittal of three persons.

(*b*) *Protection from fire.*

30. No fire is known to have occurred during the year.

At Stewart Sound in April the writer endeavoured to start a fire in mixed bamboo and dry deciduous forest but it burnt itself out in a very small radius within an hour after nightfall.

(*c*) *Protection from Cattle.* (*Form 16.*)

31. Owing to the posting of a watchman over the *padouk* plantation of 1911 the number of cattle impounded fell to 58 against 208 in the previous year.

About 278 square miles of unclassed forest are nominally open to grazing in the South Andaman.

(*d*) *Protection against injuries from natural causes.*

32. *Damage by insects.*—Mr. A. R. Brown reports that the young *padouk* which has sprung up naturally in the Goplakabang Reserve is not attacked by insects where it is growing close together but that isolated plants have had their leading shoots damaged.

A few young *Hevea* plants have been killed by a white grub which eats the roots chiefly on abandoned tea lands. The damage is, however, slight.

33. *Climbers.*—These are very troublesome in young plantations where they spring up very rapidly on the removal of the cover and they have to be kept back by continual weeding and cleaning.

Section 4.—Sylviculture.

(*a*) *Natural reproduction.*

34. *Padouk* seeded fairly well this year, and as usual germinated only to die off in a few weeks for want of light.

The result of opening the cover in the Goplakabang Reserve discussed below under cultural operations confirms the view that if the cover can be removed to let in light, and if labour can be found to free the seedlings of creepers the natural reproduction of *padouk* can be assured.

Mr. Bonig made a clearing in June in natural *padouk* forest, of 3 acres on Long Island and of 32 acres in the Middle Andaman opposite Long Island.

All undergrowth and as well as most trees under 18″ in diameter, particularly those with low and dense crowns, were removed and the brushwood collected in heaps.

The cover was opened up more in some places than in others.

There was seed on the ground but in order to make sure of some result the whole area was sown broadcast with seed collected at the timber extraction camps.

In July most of the seeds germinated and were thriving where the canopy was well opened but the results were very poor where the cover was dense.

There is no longer room for doubt as to the necessity of letting in plenty of light if natural reproduction is hoped for and this must be followed up by cleanings.

(*b*) *Artificial Reproduction.* (*Form 18.*)

Regular Plantations.

35. *Mangroves.*—The cost of sowing the mangroves in Dhanikhari Reserve mentioned in paragraph 24 of last year's report was adjusted during the year and amounted to R154.

The sowing has proved a failure with Rhizophora mucronata and it now remains to try Rhizophora conjugata, and if that fails to abandon the area.

A sum of R3 was spent on the upkeep of a raised path in Namunaghar reserve.

The total expenditure on mangroves was R157.

36. *Rubber.*—(*Hevea brasiliensis*).—An extension of 8 acres was planted in June 1913, there being only 860 plants available in the nursery after filling blanks of the previous year.

The area of the plantations on 30th June 1913 was 137 acres as under :—

Year of planting.	Acreage.	Plants.	Spacing.
1905	42	1,710	15′×15′
1911	76	7,605	22 ft. triangular.
1912	11	1,171	Do.
1913	8	860	Do.
TOTAL	137	11,346	

37. The monthly girth record of sample stems was replaced by annual measurement.

Thirteen stems show an average girth increment of 9½ inches in two years whilst 18 stems show an average growth of 12 inches in 3 years.

The average rate of growth compares favourably with the published results for Ceylon, Malaysia and Burma.

38. The following statement gives details of the expenditure on rubber—

Particulars.	Area of 1905, 42 acres.	Area of 1911, 76 acres.	Area of 1912, 11 acres.	Area of 1913, 8 acres.
1	2	3	4	5
	R A. P.	R A. P.	R A. P.	R A. P.
Weeding	194 13 3	628 2 2	50 14 5	...
Manuring	14 8 11	95 1 7	12 14 5	6 13 5
Paths	7 9 1	40 13 8	1 9 10	...
Drainage	...	26 6 0	59 13 4	6 0 0
Holing	...	2 14 1	88 14 6	13 14 8
Seed	...	...	1 8 10	510 8 6
Nursery	...	...	27 5 4	224 10 7
Baskets	...	...	...	33 5 10
Clearing	...		...	60 0 1
Pruning	...	...	14 10 4	...
Watchman	16 15 7	16 15 7	16 15 7	16 15 7
TOTAL	233 14 7	810 5 1	274 10 7	872 4 8
Cost per acre	5 9 1	10 10 7	24 15 6	109 0 0

The apparently high cost of the 1913 extension is due to the failure of the nursery. Land was cleared for an extension of 100 acres but only 8 acres could be planted. The remainder has been planted since the close of the year with stumps procured from Ceylon.

Besides the above, about 200 acres have been cleared for next year's planting at a cost of R635.

39. *Nursery.*—The seed procured from Ceylon (about 150,000) proved a failure giving only 1·5 per cent. of germination, so also was the local seed 4,725 of which only 5 per cent. germinated against an average in past years of 40 per cent. Either the season or the nursery itself was at fault, only 2,648 plants were obtained with which blanks were filled and the extension of 8 acres planted.

The total cost of the nursery including the purchase of seed and baskets was R797 as shown in the statement above.

40. *Tapping.*—Experimental tapping was begun on the 20-year old trees at Namunaghar; though much too closely planted these trees gave a yield of latex equal to good average Ceylon trees, but they are only 20 in number altogether including suppressed trees so that no appreciable quantity of rubber could be made.

Manufacture was naturally difficult at first owing to want of knowledge and experience but as soon as some Ceylon convicts were posted to the work a distinctly better sample was produced.

On his return from privilege leave in March Mr. B. P. Kelly, Extra Assistant Conservator of Forests, was deputed to visit the Mergui Rubber plantation with the object of finding out how best to treat the latex so as to produce marketable rubber. When he came back a smoking shed was made which has been successful in curing the rubber and preserving it from deterioration. Only a few pounds have been produced so far of which some appears

quite good, and all we look for at present is to train men to manufacture successfully against the time when a large number of trees come into bearing.

Great care is taken that no injury is done to the trees in the tapping.

The cost of utensils and tapping knives amounted to R167, labour for tapping R38 and for manufacture R17.

41. As stated in paragraph 28 of last year's report about 400 trees of the 1905 block are now ready for the first light tapping which was begun after the close of the year.

42. The grand total of all expenditure on rubber during the year was R3,049 as shown in Form No. 18.

Cultural operations.

43. The term *taungya* is a misnomer when applied to the sowings of *padouk* which have been made in the Wimberleygunj valley from 1903 to 1911, hence these areas amounting to 1,300 acres have now been transferred to Cultural operations.

The use of fire to clean up these areas for sowing after clearing does not make them *taungyas*, and a crop of hill paddy was only grown on the areas of 1908 to 1911 and then it proved harmful. Moreover the work was done departmentally at considerable expense and was not, as a *taungya* is, a fairly cheap method of getting forest land stocked with a valuable species of timber in conjunction with the practice of shifting cultivation by a forest people.

44. The *padouk* areas of 1908 to 1911 were cleaned and weeded at a cost of R1,086. The older areas are in need of cleaning and that of 1903 of a thinning but no labour was available.

The area of 40 acres in Goplakabang Reserve in which the cover was partially removed in order to induce natural regeneration which was *eked* out by transplanting, has been a great success. Where there is plenty of light the seedlings are dense and growing vigorously—in parts to the exclusion of all other species. They were in some cases about 3 feet high at the end of the year which represents very good growth indeed from seed. Where the cover is still dense seedlings are either just struggling or absent.

The 100 acres alongside which had been clear felled for fuel in 1911-12 and sown broadcast with *padouk* in June 1912 has also done very well except where the soil evidently does not suit *padouk* and the most of this area it may be noted was occupied by evergreen forest before it was cleared.

Two cleanings were made in these two areas during the year at a cost of R427. The latter area has been weeded too clean where the *padouk* saplings are isolated. Where the *padouk* is dense it is fairly exclusive.

The area of 35 acres on the south coast of Rutland was gone over in May at a cost of R38 A path was also cut to the coast as suggested by Mr. Leete, Conservator of Forests, Pegu Circle, when he visited it with the writer on the 15th March. At this inspection it was noted that hardly any of the seed sown at stake in 1912 had come up and that most of the seedlings were natural. It is not really typical *padouk* forest.

45. The new work of the year in the Goplakabang Reserve consisted of the sowing of teak, *padouk* and *Koko* on 33½ acres of typical *padouk* soil adjoining the area of 40 acres partially cleared last year. The teak seed was sown in lines 24 feet apart and 6 feet apart in the lines, and the *padouk* and *Koko* seed was sown broadcast in between. The teak seed was parboiled to induce rapid germination and on inspection by the writer early in August it was found to have germinated most successfully—plants being in many cases already six to nine inches high with leaves in some cases nine inches in length though only sown about the middle of June.

The *padouk* seed had also germinated fairly well but was not so far advanced as the teak.

The reason for placing the lines of teak so far apart is that it was found in the old teak and *padouk* plantations of 1887 to 1890 that where teak is planted in lines 18 feet apart and 4 feet apart in the lines, with a line of *padouk*

between the lines of teak the *padouk* become suppressed and the teak also interfere with each other if planted too closely in the lines.

As the area was not cleared for fuel the cost of clearing and sowing R451 was rather high. In future all utilisable material will be removed before sowing in this locality so that the cost will be greatly reduced.

Another area 52 acres on the eastern slopes of the Goplakabang Reserve was sown with teak in lines 12′×6′, five seeds being placed at each stake, at a cost of R445 and casuarina seed procured from Madras was also sown on this area between the teak to see how it would grow on this soil.

The teak is doing well though most of the land carried evergreen forest clear felled for fuel.

Mr. A. R. Brown, Extra Assistant Conservator of Forests, deserves credit for the success which has attended the sowing of teak, due to his close personal attention and keen interest.

46. There is no doubt that if a policy of planting is to be pursued it will be advisable to plant teak rather than *padouk*—or to plant the two together, looking in the latter case to the teak rather than to the *padouk* to provide the final crop. Even Java teak which is grown in plantations is more valuable than *padouk* and is in much greater demand. Teak will certainly grow in the Andamans at least as well as in Java. Samples of Andamans grown teak 40 years old were submitted to an expert who was favourably impressed.

Teak in plantations will probably attain a girth of 7 feet and a height of 80 feet in about 80 years whereas *padouk* will take half as long again and never seems to produce a long straight stem.

Mr. Leete, Conservator of Forests, Pegu Circle, inspected the 1887 and 1889 teak plantations in March and expressed the opinion that they compared favourably with the Burma teak plantations having regard to the fact that they had suffered from neglect.

47. The total expenditure of the year on cultural operations was R2,462 and the grand total of all expenditure on artificial reproduction was R5,668 as shown by Form 18.

	R
Regular plantations—	
Rubber	3,049
Mangrove	157
Cultural operations—	
Various	2,462
TOTAL	5,668

(*c*) *Operations for the improvement of the growing stock.*

48. Owing to there being no labour available cleanings could not be carried out in the *padouk* forests which have been recently exploited in order to free the seedlings and saplings which have sprung up.

Nor could any of the previous year's work be gone over again as is essential to success.

A sum of R84 was spent on cleanings amongst natural regeneration in the Goplakabang valley, whilst R2 were spent on numbering guide lines cut in Rutland Island in connection with the cleanings mentioned in paragraph 34 of last year's report.

The total expenditure under sub-head *A viiig* was R86 as shown by Form No. 24.

(*d*) *Experiments.*

49. The sowing of teak and casuarina referred to in paragraph 45 may be considered as an experiment, though we have proof in our old plantations that teak will succeed if tended properly.

It was hoped that casuarina might be a useful wood to restock evergreen forest land which has been cleared for fuel, with a good fuel producer, but it does not seem to germinate with certainty.

Seed of several species of Eucalyptus was procured at a cost of Rs93. They were slow in germinating and only appeared in August and will be reported on next year.

50. Three pounds each of the seed of Albizzia moluccana and of Cassia mimosoides were procured from Ceylon, and germinated well.

The former is reported to be a very quick growing tree fit for fuel and is grown on tea estates with the double object of shading the tea and adding nitrogen to the soil.

The latter proved to be an annual used as a green manure and it may possibly be useful to sow between the lines of rubber trees. It seeded in April and some seed was gathered and what fell on the ground has germinated profusely.

51. An experiment in girdling *pyinma* (Lagerstroemia hypoleuca) was brought to a conclusion this year.

A number of these trees had been girdled in August and September 1911 and were felled just after the close of the year. The objects were to make the logs float for easy rafting, and also to season the timber, which when felled green splits very badly in the log.

Borers had already attacked the sapwood and the trees could not have been left much longer, but some of the logs still split badly after felling ; however they all floated with about one-third of their volume above water, so that the experiment may, on the whole, be considered successful.

Section 5.—Exploitation.

(a) System of Management.

(*i*) *Major Forest Produce.*

52. *Timber.*—Unregulated fellings were carried out during the year for *padouk* in the Middle Andaman, and in Baratang, and for the first time in Havelock and Peel Islands of Ritchie's Archipelago. Mr. Bonig on his return from leave in September 1912 shifted 10 elephants from Rutland to Havelock in the Forest Department steamer *Rosamond*.

Fellings were continued in Rutland principally for *Gurjan* (Dipterocarpus sp.).

A limited number of *padouk* and some *Koko* (Albizzia Lebbek) and *pyinma* were also obtained from Long Island.

The areas felled over cannot be given, as camps were often changed on account of seasons, *e.g.*, from Baratang (Lurujig area) to Middle Andaman in October, back to Lurujig in January to take advantage of calm weather for working there, and then back to Middle Andaman in May, because timber could not then be loaded in the steamer at Lurujig.

Similarly the northern *padouk* area of Havelock was exhausted as regards *padouk* trees fit for export squares by January, and the camp was shifted to the south coast which could only be worked in the calm season from February to April when it had to be shifted back to Peel Island.

53. *Fuel.*—The bulk of the fuel extracted departmentally was obtained from the Goplakabang Reserve, where 210 acres were clear felled and some fuel was cut at forest camps near the steamer anchorage as fuel for the *Rosamond*.

Charcoal was manufactured at Rutland principally from defective trees of Mimusops littoralis.

(*ii*). *Minor Forest Produce.*

54. The local population obtained their supplies of canes and thatching leaves within the Settlement and no one availed himself of the privilege of collecting minor produce free of charge from neighbouring islands.

Canes were cut departmentally for local jail manufacture at Baratang, Havelock and Long Island.

Mangrove bark and the bark of Terminalia Catappa were collected departmentally for the tannery connected with the local workshops. It was obtained from the Goplakabang and Brigade creek reserves.

(*b*) AGENCY OF EXPLOITATION.—(*Forms 19 and 20.*)

(*i*) *Departmental Agency.*

55. The bulk of the timber and fuel was extracted by departmental agency as usual.

The percentages of all forest produce extracted departmentally were as follows :—

Timber	88	per cent.	by volume.
Fuel	70	„ „	do.
Minor produce	15	„ „	by value.

Being an increase of 14 per cent. in timber, a decrease of 9 per cent. in fuel, and a decrease of 6 per cent. in minor produce on the corresponding figures of the previous year.

56. *Major produce.—Timber.*—Tons 4,554 of rough-hewn *padouk* were shipped during the year. Of this quantity 2,841 tons were shipped between July 1912 and January 1913 against contracts for the year 1912, whilst 1,713 tons were shipped between January and June 1913 against the contracts for the year 1913.

Purchasers had held off in the first half of 1912 on the introduction of a new system of sales so that very nearly a whole year's output had to be rushed through in the second half of 1912 and the greater part of this was turned out in the last 3 months of the year with the help of special drafts of labour. Great credit is due for this to Mr. M. C. C. Bonig, who realised the seriousness of the situation on his return from leave in September and to Mr. C. Alfred, Forest Ranger, who replaced Mr. Miller, Extra Assistant Conservator of Forests, in charge of the principal extraction camp from 12th November 1912. Mr. Miller had conducted the extraction in an unsatisfactory manner and the writer having no previous experience was not in a position to see where the fault lay.

Though it was open to them to argue that this timber should have been carried by the mail steamer earlier in the year, Messrs. Turner Morrison and Co., very kindly sent a special steamer to take the timber as the mail steamer could not have taken such a large quantity in the time, and delivery could not otherwise have been given in accordance with the contracts. The s. s. *Begum* arrived on the 20th December 1912 and was detained less than 72 hours in port and took in 918 tons of *padouk* squares as well as 239 tons of mill-sawn *gurjan* which is a record for Port Blair which will not probably be beaten for some time.

57. Tons 1,310 of mill-sawn *gurjan* (Dipterocarpus sp. var.) were shipped during the year, 1,254 tons against the 1912 contract, and 56 tons against that of 1913. Owing to the unsatisfactory state of the mill there remained still 54 tons of *gurjan* at the end of the year to be delivered against the 1912 contract. In 1913 a contract was made for 1,000 tons as against 2,000 in 1912.

58. *Fuel.*—Cords 7,491 were supplied to the Settlement, and 393 cords were cut for the Tramway locomotives.

The steamer *Rosamond* and the launch *Eileen* used 887 cords of which 255 cords were cut at the Forest camps near the anchorages, and 632 cords came from the sawmill wastage at Chatham.

Charcoal.—Maunds 4,208 were supplied to the Settlement during the year. This was all made at camps on Rutland Island from defective trees of *mohwa* (Mimusops littoralis).

It was found from measurements of 14 kilns that 1 maund was the equivalent of $11\frac{1}{2}$ cubic feet stacked or about 8 cubic feet solid.

59. *Minor produce.*—Canes of three grades, thin, medium white, and thick were supplied to the Cellular Jail for making baskets, and cane furniture—whilst mangrove bark, and bark of Terminalia Catappa were supplied to the workshops tannery. The bark of Terminalia Catappa is much preferred, but in the South Andaman this tree is scarcer than in the Middle and North Andamans, where it is common.

60. The total revenue of the year from produce extracted by departmental agency was R466,710 of which details are given in Form No. 24.

61. *Transport by land.*—A list of elephants in the Andamans is given in Appendix I with details of the number of days worked by them.

As regards casualties the year was very unfortunate. Six elephants died during the year. Of these two Lachmi and Shwe Daung were old animals—the former having been off work for two years, but the other four were good animals, one, Panjey, being a very fine tusker purchased in 1906. This animal and Madhumallah died at Peel and Havelock Islands on the 7th June and 28th May, respectively, from some disease which seemed suspiciously like anthrax, though blood films were taken too many hours after death for identification of the bacillus with certainty.

Mabel died at Rutland in January 1913 from inability to expel her calf. It was proved by post-mortem examination that nothing could have saved her.

Dharam Piyari died at Rutland in October 1912, from obstruction of the bowel.

62. *Transport by water.*—The steamer *Rosamond* ran from 1st July 1912 to the 18th February 1913, and again from the 4th May 1913 to the end of the year. In the interval she went to the Kidderpore Dockyard for her annual refit.

She brought in 8,502 tons of timber during the year, and while she was away the steam launch *Eileen* towed rafts or boats with 704 tons, and the *Ross* (lent by the Settlement) towed 810 tons.

Altogether 10,016 tons of timber were brought into Port Blair depôt from Forest Camps.

New Jetty.—The jetty at Chatham where *padouk* squares are discharged from the *Rosamond* to be measured and passed for export, was renewed during the year, and nearly completed. It was found that the piles of *gurjan* (Dipterocarpus) were attacked by *teredo* to a much less extent than was anticipated and this timber would appear suitable for piles.

The new piles were of *Lakuch* (Artocarpus Gomeziana), a very durable wood of a greenish yellow colour. They were charred, tarred and sheathed with zinc before driving. Materials to the value of R700 were issued from the godown, whilst labour cost R247 charged to departmental extraction.

(*ii*) *Purchasers.*

63. *Major produce.*—The revenue from timber sold standing to purchasers was R5,357 as against R5,931 in the previous year.

The revenue from fuel cut by purchasers at four annas per cart-load was R136 against R106 in the previous year.

Bamboos brought in R49 against R36 in the previous year.

Minor produce yielded R348 against R207 in the previous year notwithstanding that the local inhabitants now get most minor produce free.

The total revenue of all forest produce removed by the purchasers themselves was R5,890 as against R6,280 in the previous year.

(*iii*) *Rights and Privileges.*

64. There are no rights. The concession mentioned in paragraph 52 of last year's report to remove thatching materials from Baratang and Rutland was not used.

The estimated value of produce removed by privileged persons was ₹11,894 against ₹10,435 in the previous year, owing to an increase in the number of houses.

(iv) Free Grants.

65. Officers of the Settlement cut fuel free of charge at outlying stations, *viz.*, for the tea garden 225 cords, and for other stations 734, total 959 against 437 in the previous year.

Free grants of timber as samples were made to—

The Bengal Safety Match Co. Limited	11 c. ft. of Sterculia (value nomial).
Col. Oldershaw	80 c. ft. of various timbers (valuable ₹119).

The quantity and value of all forest produce removed free of charge by District Officers and villagers is shown in Form No. 19.

(*c*) OUTTURN AND SOURCES OF FOREST PRODUCE (*Forms 19 and 20.*)

66. The following table compares the outturn of the year classified according to the agency of exploitation and the kind of produce extracted, with the figures of 1911-12.

		Timber.	Fuel.	Bamboos.	Minor produce.
		c. ft.	c. ft.	No.	₹
Government Agency	1912-13	652,249	950,077	21,553	576
	1911-12	474,781	1,316,489	33,094	911
Purchasers	1912-13	35,961	65,440	79,100	348
	1911-12	39,641	51,120	58,125	207
Free Grantees	1912-13	29,625	237,000	395,000	2,518
	1911-12	32,535	260,240	433,800	2,766
District Officers	1912-13	22,607	76,720	248,580	84
	1911-12	46,548	41,820	188,517	135
TOTAL	1912-13	740,442	1,329,237	744,233	3,526
	1911-12	593,505	1,669,669	713,536	4,019

The increase in the outturn of timber extracted by departmental agency was due to the sale during the year of *padouk* timber which should have been sold in the previous year in normal circumstances.

The decrease in the fuel removed by departmental agency was due to a reduced demand for fuel by local officers and departments.

The decrease in bamboos and minor produce was due to less demand.

With regard to produce extracted by purchasers the increases under fuel, bamboos and minor produce are due to greater demand by the free residents of the Eastern District.

The decrease in the produce removed by the Free Grantees is due to there being less houses than in the previous year.

The quantities of fuel and bamboos removed by the District Officers are greater than last year as the District Officers have extracted more fuel for convict bhandaras and bamboos for buildings.

67. The following table shows the timber in the round supplied to the Chatham Sawmill and the outturn obtained :—

Year.	Timber sent to sawmill.		Timber received from sawmill.	Percentage of loss in conversion.
	No. of logs.	Volume.		
			Cubic feet.	
1912-13 . . .	5,667	285,465	131,963	54
1911-12 . . .	6,050	288,598	143,727	50

The increase of 4 per cent. in wastage is due to the sawing of logs from old stock.

68. The total expenditure on the management of State forests during the year was R1,91,175.

CHAPTER III.

FINANCIAL RESULTS (*Forms 21, 22, 23, 24, 25, 26 and 27.*)

69. The income and expenditure of the year are compared with those of the previous year and with the average of the previous five years in the following statement :—

		1912-13.	1911-12.	Average, 1906-11.
		R	R	R
Revenue		4,74,115	4,59,238	3,63,309
Expenditure	A	2,03,579	1,78,249	1,87,715
	B	60,885	53,308	38,142
Total Expenditure		2,64,464	2,31,557	2,25,857
Surplus		2,09,651	2,27,681	1,37,452

The increase in expenditure A was due to the Survey and Working-plan enumerations and in expenditure B to there being an additional Provincial Officer on account of the Working-plan.

The prescribed analysis shows that 98·49 per cent. of the receipts came from major produce and 1·25 per cent. from minor produce whilst revenue from miscellaneous sources was 0·26.

Of the expenditure only 10·75 was incurred on the constitution and improvement of the forests, whilst 66·25 was incurred in connection with the exploitation of the forests and 23 per cent. on the administration and protection of the forests.

The percentage of net income was nearly 45 per cent. against 50 per cent. in the previous year.

The outstanding of revenue at the end of the year amounts to R79,705 against R70,349 in the previous year.

The balance of timber in stock in sale and forest depôts at the close of the year amounted to 179,799 cubic feet against 295,250 cubic feet at the close of the previous year.

The balance of firewood in stock in sale and forest depôts at the close of the year was 72,426 cubic feet against 46,799 at the close of the previous year

The estimated value of timber and other produce stored at sale depôts was R1,60,841 or R82,304 less than at the commencement of the year.

The value of live and dead stock amounted to R32,302 against the year.

Six elephants died during the year under report and there are now 44 elephants on the books.

One buffalo died during the year leaving 10 on the books.

The outstandings due to the Forest Department by contractors and disbursers representing advances recoverable amounted to R105-11-6 at the commencement and R42-11-6 at the close of the year.

CHAPTER IV.

ADMINISTRATION.

70. *Inspection.*—The usual annual inspection was carried out by Mr. F. A. Leete, Conservator of Forests, Pegu Circle, Burma, from the 13th to the 22nd March 1913.

71. The writer was in charge of the Division throughout the year.

72. Mr. B. P. Kelly, Extra Assistant Conservator of Forests, was in charge of the Wimberleyganj Subdivision, till the 18th October 1913, when he was placed in charge of the Chatham Subdivision until the 23rd November, when he proceeded on 3½ months' privilege leave. On his return, Mr. Kelly was deputed to visit the Mergui Crown Rubber Estates to gain a knowledge of tapping and manufacture principally, and of rubber planting generally. He returned to Port Blair on the 27th March 1913 and submitted a useful report and was able to improve the manufacture of rubber very considerably. Mr. Kelly is a painstaking and conscientious officer.

73. Mr. M. C. C. Bonig, Extra Assistant Conservator, was on privilege leave out of India up to the 15th September 1912. He devoted most of his short leave to acquiring knowledge of modern saw mills in Germany. On his return from leave he was placed in charge of the Working-plan operations which he has conducted with the utmost zeal and efficiency. In the course of this work he has acquired a knowledge of the subject which would do credit to many trained officers.

During September and October also Mr. Bonig put the timber extraction in order as it had fallen in arrears, and it is largely due to his efforts and his insistent demand for the additional labour required that nearly two-thirds of the whole year's output was turned out in the last quarter of 1912 and all contracts duly fulfilled.

Mr. Bonig is a very energetic, keen and capable officer.

74. Mr. A. R. Brown, Extra Assistant Conservator, was in charge of the Chatham Subdivision up to the 18th October 1912, when he exchanged places with Mr. B. P. Kelly at Wimberleyganj, where he remained till the end of the year. His work was quite satisfactory.

75. Mr. W. H. Miller, Extra Assistant Conservator, was in charge of the Northern Subdivision and the principal timber extraction camp up to the 12th November 1913, when he was replaced in this post by Mr. C. Alfred, Forest Ranger.

He was in charge of the Chatham Subdivision from the 24th November 1912 to 27th March 1913, when he was placed in charge of the Extraction Camp at Havelock Island.

His work at extraction camps was unsatisfactory; he does not give nearly enough personal attention to his work.

76. Mr. C. E. Parkinson, Probationary Extra Assistant Conservator, was attached to the Working-plan party from November 1912 to the end of the year. He did excellent work on checking enumerations. He collected and

described a number of botanical specimens, some of which await identification. And he also learnt to use the theodolite and carried on traversing while one of the Surveyors was occupied with triangulation. He promises to be a good Forest Officer.

Mr. C. Alfred, Forest Ranger, did very good work on timber extraction ensuring the fulfilment of the contracts for 1912. In April and May he was attached to the Working-plan party to check enumerations while Mr. Parkinson was employed on survey work. This was a very useful experience for him. Mr. Alfred has been recommended for promotion to the Provincial Service.

Mr. Robertson, Forest Ranger, on probation, did very good work, checking Working-plan enumerations. He joined the Provincial Class, 1913-15, at the Forest College after the close of the year.

77. One Deputy Ranger was suspended owing to an escape of some convicts with a boat, but was subsequently reinstated as he was less to blame than the police.

Two Foresters were appointed to fill vacancies.

One Forester went on combined leave and subsequently took up other employment in Bengal.

Shaikh Ali Ghulam Husain from R. I. M. S. *Northbrook* holding a Royal Indian Marine Master's Certificate was appointed in charge of the steamer *Rosamond* from the 18th June 1912. He is efficient and bears a very good character.

78. Head Clerk Khuda Baksh died on 31st October 1912 whilst on leave.

He was succeeded from 18th November 1912 by Mr. C. Viziarangam Mudaliar, Accountant of the Port Blair Treasury, who worked hard and picked up his new duties.

Subhan Ali accepted an appointment as head clerk in the Police Office from the 1st May 1913.

All clerks worked fairly well, though there was undue delay in preparing the statistics and forms for this report.

79. The reorganisation of the office establishment was sanctioned by the Government of India in a letter No. 489 F.—80-3, dated the 17th May 1913, to the Superintendent of Port Blair, but complete effect could not be given to it during the year.

CHAPTER V.

General.

80. *Saw Mills.*—The Chatham Saw Mill produced only 2,629 tons of sawn timber during the year whereas the minimum should be 3,600 tons. The opening stock balance was 570 tons and the issues were 2,763 tons; there was a shortage of 12 tons discovered at the stock-taking in June, and 63 tons of deteriorated stock were converted into fuel leaving the closing balance at 360 tons Of the issues 1,006 tons were consumed locally and 1,757 tons were exported, principally to Calcutta Of the 1,006 tons sold or consumed locally 122 tons were used by the Forest Department, 625 tons by the Public Works Department and the rest by other departments with a few local sales to private parties.

The mill is in very bad order, two benches having been out of order for part of the year. The mill was stopped altogether from 5th May to 20th June, principally on account of heavy repairs to the main engine.

The cost of operating the mill is as follows :—

	R
Salaries of Foreman and clerk	3,547
Labour charged in accounts from July 1912 to June 1913	15,404
Purchase of stores	6,584
Value of stores issued from godown	137
TOTAL	25,672

thus the cost rate per ton for 2,629 tons amounted to R9-12-0.

81. With the sanction of Government the services of Mr. W. F. S. Perry, Superintending Engineer and Mill Manager of the Bombay-Burmah Trading Corporation, Limited, were engaged in April to examine and report upon the Chatham Saw Mill and the proposals put forward locally to improve it. Mr. Perry made a detailed examination of all the plant and sent in a very valuable report. His criticisms were severe but fully justified. Far the best plan is to have a new mill instead of attempting at great expense to rearrange the present mill, in which most of the saw benches are either worn out or of the wrong type for the heavy work required of them.

Proposals were submitted with a view to have a new mill specially designed for the work by an expert.

82. *Semi-portable Saw Mill.*—Sanction was received during the year for the semi-portable saw mill and also to the payment of a fee for a special design by an expert, but in view of the possibility of leasing the Middle Andaman for a term of years for the extraction of timber the matter was not proceeded with, but sanction was asked for a new mill at Chatham instead. But no orders were received during the year.

83. *Marine.*—The steamer *Rosamond* left for Calcutta with a navigating party deputed from the Royal Indian Marine on the 19th February and returned to Port Blair on the 3rd May. This was too late in the season for the safety of this vessel. Had she been a day or two later, or had bad weather started a day or two sooner she would not have been able to come at all, and the whole of the timber export would have been upset. In any case the loss of her services for so long a period as $2\frac{1}{2}$ months is a serious inconvenience. A junior Engineer Officer of the Royal Indian Marine, Mr. S. J. Fenner, was deputed in charge of her during the refit and he did excellent work for the Department. The cost of the refit on bills rendered up to 30th June was R16,596, including fitting up the electric light installation and search light.

Petty local repairs during the year cost R87 and the value of stores issued from stock was R318.

Her running cost for the year was R12,953, including wages of crew R7,696 and consumable stores, paint oil, ropes, etc., R5,257.

The steam launch *Eileen* was on the slip at Phœnix Bay for 5 months from September 1912 to February 1913. A number of her plates on and below the water line were renewed. Her boiler pressure has been reduced from 90 lbs to 80 lbs. and it is time that she was replaced, though she will run for two or three years more.

The bill for labour on repairs was R1,779 and the stores and materials issued from stock are valued at R873.

Her running cost amounted to R2,649, being for wages R1,995 and for consumable stores R654.

84. The steam cutters *May* and *Dorothy* were repaired during the year at a cost of R1,994 and the value of stock materials used was R268.

The *May* proved invaluable to the Working-Plan Officer who could hardly have done his work without her.

Her radius of action is fully 40 miles and she can carry 20 men and a quantity of stores, so that she was frequently used for moving camps, as well as for the rapid transit of the Working-Plan Officer from place to place.

85. The value of stock materials used for the repair of timber boats, row boats, dinghies, etc., was R2,610 and the cost of labour R1,120.

The Kidderpore Dockyard supplied six new Bengal dinghies during the year at a cost of R437. These were most useful for the Working-plan party enabling them to proceed as far as possible by water before taking to the slower land transport.

J. L. BAKER,

Deputy Conservator of Forests,

Andamans.

Form No. 7. (*Paragraphs 1 and 2.*)

Area of Reserved and Unclassed Forests, 1912-1913.

Division.	Range.	Civil District or Territory.	Name of Forest.	Area of 1st July 1912.		Added during the year.	Excluded or transferred to other heads.	Area on 30th June 1913.		Number and date of Notification of addition or transfer, etc.	Remarks.
				Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
1	2	3	4	5	6	7	8	9	10	11	12
						Reserved Forests.					
Andamans.		South Andaman Settlement (area 477·68 square miles).	1. Middle Straits .	23,411	36·58	...	...	23,411	36·58		In the Jarawa Country.
			2. Port Meadows .	12,160	19·00	...	...	12,160	19·00		
			3. Shoal Bay . .	9,728	15·20	...	...	9,728	15·20		
			4. Mount Harriet .	25,600	40·00	...	...	25,600	40·00		Note.
			5. Hope Town . .	415	0·65	...	...	415	0·65		The Indian Forest Act is not in force in the Andamans.
			6. Goplakabang .	2,085	3·26	...	...	2,085	3·26		
			7. Brigade Creek .	2,344	3·66	...	...	2,344	3·66		These Forests have simply been declared "Reserved Forests" by executive orders.
			8. Namunaghar .	1,275	2·00	...	...	1,275	2·00		
			9. Minnie Bay . .	231	0·36	...	...	231	0·36		
			10. Dhani Khari .	8,031	12·57	...	...	8,031	12·57		
			11. Ali Musjid . .	14,916	23·00	...	...	14,916	23·00		
			12. Navy Bay Teak plantation.	16	0·02	...	16	...	...	Chief Commissioner and Superintendent's Notification No. 4 of the 12th July 1912.	
		...		100,212	156·	...	16	100,196	156·		
						Unclassed State Forests.					
		South Andaman Settlement.	South Andaman . .	177,715	(a) 277·68	(b) 16	(c) 70	177,661	277·59		(a) 203·32 square miles in the Jarawa Country.
			1. North Andaman .	353,485	552·32	...	...	353,485	552·32		
			2. Middle Andaman .	377,216	589·40	...	...	377,216	589·40		(b) 16 acres excluded from reserves.
		Other Islands.	3. Baratang group .	75,904	118·60	...	...	75,904	118·60		
			4. Ritchies Archipelago	61,133	95·52	...	...	61,133	95·52		(c) 70 acres were cleared during the year for cultivation and grazing by the Settlement.
			5. Rutland . .	30,490	47·64	...	...	30,490	47·64		
			6. The Labyrinth Islands	6,797	10·62	...	...	6,797	10·62		
			7. North Sentinel .	14,618	22·84	...	...	14,618	22·84		
			8. South Sentinel .	538	·84	...	...	538	·84		
			9. Little Andaman .	191,718	299·56	...	...	191,718	299,56		
				1,289,614	(d) 2,015	16	70	1,289,560	(d) 2,015		(d) Clerical error should be 2015.
			Grand Total .	...	2,171	...	...	...	2,171		

Form No. 8. (*Paragraph 3.*)

Statement showing the Progress made in, and the Expenditure incurred on, Forest Settlements during 1912-1913.

Name of Forest Division.	Name of Civil District or Territory.	Area already settled at commencement of the year.	AREAS FINALLY SETTLED DURING THE YEAR.						AREAS UNDERGOING SETTLEMENT.						Remarks.
			Number and date of Government order according final sanction to the Settlement.	Name of Forest settled.	Area in square miles.	Expenditure incurred during the year on areas finally settled.		Entire cost per square mile of area finally settled during the year.	At commencement of the year.		Taken in hand during the year.		Expenditure incurred during the year on areas undergoing Settlement.		
						In Forest accounts.	In other accounts.		Name of tract.	Area, in square miles.	Name of tract.	Area, in square miles.	In Forest accounts.	In other accounts.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		Sq. Ms.				R	R	R					R	R	
Andamans.	Andamans.	156													

Form

Record of Demarcation and Maintenance

Division.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at close of the year.	Length of boundaries still to be demarcated at close of the year.
1	2	3	4	5	6
	Miles.	Miles.	Miles.	Miles.	Miles.
Andamans	...	...	79½	79½	...

N. B.—Boundaries include, besides the outer perimeter, the limits of enclosures of private or other

Form

Statement of Forest areas surveyed and under

Division.	AREA SURVEYED AND UNDER SURVEY DURING															
	Special surveys—Maps on 4″ scale or over, by Survey of India Department or Forest Survey Branch.								Ordinary included in District Surveys.							
	With interior details.					Boundary surveys.			With interior details.					Boundary surveys.		
	With details of growing stock.		Without details of growing stock.		Total cost.	Previous.	Of year.	Total cost.	With details of growing stock.		Without details of growing stock.		Total cost.	Previous.	Of year.	Total cost.
	Previous.	Of year.	Previous.	Of year.					Previous.	Of year.	Previous.	Of year.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R
																Unclassed
Andamans . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Form

Progress made in Working-Plans

Division.	Areas for which Working-Plans have been sanctioned by Local Government.		Areas for which Working-Plans are being compiled.	
	At commencement of year.	During year.	At commencement of year.	Taken in hand during year.
1	2	3	4	5
	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.
				Reserved
	...	...	...	...
Andamans				*Unclassed*
	317	...	...	580 (a)

No. 9.

(Paragraph 4.)

of Boundaries, 1912-1913.

Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year.		Remarks.
		On new work.	On repair.	
7	8	9	10	11
Miles.	Miles.	R	R	
117½	197	...	...	

lands within the forests, but not the limits of sub-divisions, such as compartments and coupes.

No. 10.

(Paragraphs 5, 7.)

survey during the Forest year 1912-13.

THE YEAR 1912-13.													
CHAIN AND COMPASS OR OTHER SURVEYS BY LOCAL OFFICERS.								Areas remaining to be taken under Survey.	Total Forest area at end of the year, as per Form No. 7.	Cost.			Remarks.
WITH INTERIOR DETAILS.					BOUNDARY SURVEYS.								
4-INCH OR OVER.		UNDER 4 INCH.		Total cost.	Previous.	Of year.	Total cost.			Previous.	Of year.	Entire cost of all Surveys to end of the year.	
Previous.	Of year.	Previous.	Of year.										
18	19	20	21	22	23	24	25	26	27	28	29	30	31
Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	R	R	
State Forests.													
...	...	...	589	(a) 12,404	...	...	...	1,580	2,169	...	12,404	12,404	(a) In part traversing done in Middle Andaman only.

No. 11.

(Paragraps 9, 20.)

during the Forest year 1912-13.

Areas for which Working-Plans have still to be taken in hand.	Areas for which Working-Plans are not at present required.	Total Forest areas as in Form No. 7.	Entire cost per square mile of Working-Plans completed.	Remarks.
6	7	8	9	10
Sq. Ms.	Sq. Ms.	Sq. Ms.	R	
Forests.				
85	71 (a)	156	...	(a) In the Jarawa country.
Forests.				
229	889	2,015	(b)	(b) Incomplete. Only the Middle Andaman examined. Expenditure of year R10,314.

Form

Communication and Buildin g

Division.	NEW WORK UNDERTAKEN DURING THE YEAR.						
	BUILDING.		ROADS AND PATHS.			OTHER WORK.	Total expended on new work.
	Discription of building.	Expenditure incurred.	Description of road or path.	Length of road or path.	Expenditure incurred.	Expenditure. incurred.	
1	2	3	4	5	6	7	8
		R		Miles.	R	R	R
Andamans .	Rest house at Long Island . .	161					
	Boat house at Chatham . . .	45					
	House for subordinates' establishment .	22					
	Others . . .	119					
	Total .	347					347

Form

Register of breaches of Forest

FOREST DIVISION.	Cases pending from previous year.	NEW CASES OF THE YEAR.				
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Total new Cases of the year.
1	2	3	4	5	6	7
Andamans . .	...	...	6	...	...	...

Form No.

Area closed and open to

Division.	AREA, IN	
	CLOSED TO ALL ANIMALS.	
	Whole year.	Part of year.
1	2	3
Andamans	156	*Reserved* ...
	...	*Unclassed* ...

No. 12.

(*Paragraphs 23 to 28.*)

1912-13.

REPAIRS EXECUTED DURING THE YEAR.

Building.		Roads and paths.			Other work.	Total expended on repairs.	Remarks.
Description of building.	Expenditure incurred.	Description of road or path.	Length repaired.	Expenditure incurred.	Expenditure incurred.		
9	10	11	12	13	14	15	16
	R		Miles.	R	R	R	
Barracks at Wimberleyganj	309						
Others	58	Steam Tramway.	6	1,066			
	367			1,066	45	1,478	

No. 13.

(*Paragraph 29.*)

Rules during 1912-13.

Total Cases.	Disposed of during the year.						Cases pending at close of year.
	Convictions.		Acquittals.		Total.		
	Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
8	9	10	11	12	13	14	15
6	3	5	3	3	6	8	

16.

(*Paragraph 31.*)

grazing during 1912-13.

Square miles.			
Closed to browsers (camels, goats or sheep).		Open to all animals.	Total area.
Whole year.	Part of year.	Whole year.	
4	5	6	7
Forests ...	...	...	156
Forests. ...	...	277 (a)	...

(a) Area of unclassed forest in South Andaman Settlement.

Form

Artificial reproduction

Division.	Kind of Plantation.	Area in acres.			
		On 1st July 1912.	Added during the year.	Excluded during the year.	Area on 30th June 1913.
1	2	3	4	5	6
	Regular.				
Andamans	*Padouk* (Goplakabang) 1883	4	...	...	4
	Do. do. 1884	5	...	...	5
	Do. do. 1885	16	...	...	16
	Do. do. 1886	20	...	...	20
	Teak do. 1887	...	16 (*a*)	...	16
	Do. do. 1889	...	22 (*a*)	...	22
	Do. do. 1890	...	45 (*a*)	...	45
	Mangrove (Namunaghar)	442	...	...	442
	Do. (Dhani Khari)	243	...	...	243
	Para rubber (Namunagar)	$\frac{1}{10}$	...	...	$\frac{1}{10}$
	Do. (Goplakabang)	129	8	...	137
	Afzalia and Mahogany (Goplakabang)	12	...	...	12
	Total Regular Plantations	871 $\frac{1}{10}$	91	...	962 $\frac{1}{10}$
	Cultural Operations.				
	Padouk areas, 1903 to 1911	1,300	...	...	1,300 (*b*)
	Partial clearing (Goplakabang Reserve)	40	...	...	40
	Clear-felled broadcast (Goplakabang Reserve) sowing	100	...	...	100
	Rutland, partial clearing with sowing	35	...	...	35
	Teak and *Padouk* (Goplakabang)	...	33½	...	33½
	Teak with exotics (do.)	...	52	...	52
	Total Cultural Operations	1,475	85½	...	1,560½

No. 18. *(Paragraphs 35 to 47.)*

for Forest year 1912-13.

Expenditure during the year.		Total expenditure from commencement.		Revenue during the year.	Total revenue from date of creation of plantation.	Remarks.
Creation.	Up-keep.	Creation.	Up-keep.			
7	8	9	10	11	12	13
R	*R*	*R*	*R*	*R*	*R.*	
...	...	Not known.		...	...	
...	...	do.		...	...	
...	...	do.		...	...	
...	...	do.		...	...	(*a*) These plantations were written off. They were originally planted with teak and *padouk* in alternate lines, 9 feet apart. *Padouk* has been suppressed and they now consist of pure teak which is doing well. The 1890 was planted in lines 100' apart cleared through high forest; this now consists of pure teak though originally it was planted with teak and *padouk*.
...	...	558	...	...	...	
...	...	1,177	Not known	...	...	
...	...	1,096	do.	...	...	
...	3	Not known.		...	...	
...	154	do.		...	...	
...	...	18	105	...	...	
1,507	1,542	3,825	5,892	...	...	
...	...	79	188	...	...	
1,507	1,699	...	...	...	...	
...	1,086	...	...	...	...	(*b*) Transferred from *taungyas* which was incorrect classification.
...	427	80	427	...	...	
...		138		...	...	
...	38	167	38	...	...	
451	15	...	...	...	...	
445	...	...	...	...	...	
896	1,566	...	...	...	...	
Rs. 5,668						

Form

Outturn (in cubic feet, solid) of Timber and Fuel during

Division.	Timber in the rough; Logs.					Timber in the rough; Poles.					Sawn or square Timber.				
	Government.	Purchasers.	Free Grantees.	District Officers.	Total.	Government.	Purchasers.	Free Grantees.	District Officers.	Total.	Government.	Purchasers.	Free Grantees.	District Officers	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.
I.—Reserved															
Andamans	...	...	...	...	...	2,180	65	(a) 14,812	10,385	27,442	...	...	...	...	...
TOTAL	...	...	...	...	...	2,180	65	14,812	10,385	27,442	...	...	...	...	...
II.—Protected															
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
III.—Unclassed															
	359,492	...	...	...	359,492	12,365	185	(a) 14,813	12,222	39,585	(c) 278,212	35,711	...	...	313,929
TOTAL	359,492	...	...	...	359,492	12,365	185	14,813	12,222	39,585	278,212	35,711	...	...	313,929
IV.—Leased															
TOTAL	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL	359,492	...	...	...	359,492	14,545	250	29,625	22,607	67,027	278,212	35,711	...	...	313,929

Charcoal should be shown by its equivalent in fuel, the quantity of

In the "Remarks" column of this form it should be shown which of the figures entered in it are *actuals* and

No. 19.

(Paragraphs 55 to 66.)

the year 1912-13 and Agency of Exploitation.

Miscellaneous.					Fuel.					Total Outturn.	Remarks.
Government.	Purchasers.	Free Grantees.	District Officers.	Total.	Government.	Purchasers.	Free Grantees.	District Officers.	Total.		
(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	
Forests.											
...	...	...	...	...	543136	...	(b) 118,500	30,720	692,356	719,798	(a) An estimate based on number of Free Grantee's huts, 10 butllies = 5 c. ft., 2 posts = 10 c. ft. are allowed for each house.
...	...	...	...	...	543,136	...	118,500	30,720	692,356	719,798	(b) There are 1,975 house-holders and quantity of fuel removed per house is estimated at 1½ cord. One cord = 80 c. ft. solid.
Forests.											
...	...	...	...	...	...	...	...	...	...	...	
State Forests.											
...	...	...	...	...	(d) 406,941	65,440	(b) 118,500	46,000	636,881	1,349,881	(c) Logs squared with axe.
...	...	...	...	...	406,941	65,440	118,500	46,000	636,881	1,349,881	(d) Including charcoal 1 md. = 8 c. ft. solid. Fuel, 1 cord = 88 c. ft. solid.
Forests.											
...	...	...	...	...	...	...	...	...	...	...	
...	...	...	...	...	950,077	65,440	237,000	76,720	1,329,237	2,069,679	

wood consumed in producing it being entered in cubic feet solid.

which are only *estimates*, it being also noted in the latter case how the figures have been arrived at.

Form No. 20. (*Paragraphs 55 to 66.*)

Outturn of Minor Forest Produce during the year 1912-13.

Decription of produce.	PRODUCE REMOVED OR UTILIZED.										Remarks.
	By Government Agency.		By Purchasers.		By Free grants.		By District Officers.		Total.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
1	2	3	4	5	6	7	8	9	10	11	12
		R		R		R		R		R	
	I.—Reserved Forests.										
Bamboos . . No.	...	...	67,745	42	1,97,500	124	45,302	28	3,10,547	193	The columns 6 and 7 are estimates based upon the following data:— 1,975 self-supporters and free residents houses each of which is allowed— 200 bamboos. 40 canes. 20 bundles thatching leaves annually. All other figures are actuals.
Canes . . . „	...	...	8,143	5	39,500	25	495	...	48,138	30	
Thatching leaves. Bdles.	...	...	3,607	226	19,750	1,234	497	31	23,854	1,491	
Bark . . . lbs.	63,307	...	...	...	...	...	...	...	63,307	445	
Total .	...	445	...	273	...	1,383	...	59	...	2,159	
	II.—Protected Forests.										
	Nil.										
	III.—Unclassed State Forests.										
Bamboos . . No.	21,553	13	11,355	7	197,500	124	203,278	127	433,686	271	
Canes . . . „	175,861	110	200	...	39,500	25	2,623	2	218,184	137	
Thatching leaves. Bdles.	112	7	1,874	117	19,750	1,234	818	51	22,554	1,409	
Reeds . . . No.	800	2	...	...	...	...	...	...	800	2	
Cane sticks . . „	100	12	...	...	...	...	...	...	100	12	
Total .	...	144	...	124	...	1,383	...	180	...	1,831	
	IV.—Leased Forests.										
	Nil.										
Grand Total .	...	589	...	397	...	2,766	...	239	...	3,990	

In the "Remarks" column of this form it should be shown which of the figures entered in it are *actuals* and which are only *estimates*, it being also noted in the latter case how the figures have been arrived at.

Form No. 21. (*Paragraph 69.*)

Account of Timber and other Produce cut or collected by Government Agency and brought to Depôts, sold locally, or otherwise disposed of, during the year 1912-13.

Name of Division.	Balance at commencement of the year in forests and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance in hand at close of the year in Ghat and sale depôts.
1	2	3	4	5	6
			Padouk.		
	195,195	321,162	516,357	430,160	86,197
			Koko.		
	1,479	1,263	2,742	1,471	1,271
			Black Chuglam.		
	3,002	1,732	4,734	1,373	3,361
Andamans					
			Marblewood.		
	587	...	587	157	430
			Pyinma.		
	7,404	10,481	17,885	5,509	12,376
			Other timber.		
	87,583	174,797	262,380	186,216	76,164
Total	295,250	509,435	804,685	624,886	179,799
			Fuel (cubic feet solid).		
	46,799	950,077	996,876	923,136	73,740
			Minor produce (value).		
	R	R	R	R	R
	283	2,943	3,226	2,954	272

Form No. 22. (*Paragraph 69.*)

Abstract showing the value of timber and other produce at sale depôts for the year 1912-13.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	No.	C. ft.	Value.	No.	C. ft.	Value.	In favour of the year.	Against the year.	
1	2	3	4	5	6	7	8	9	10
Timber.			R			R	R	R	
Logs	5,898	245,254	191,122	3,945	179,799	133,964	...	57,158	
Scantlings	...	49,996	49,315	...	18,723	23,453	...	25,862	
Total	5,898	295,250	240,437	3,945	198,522	157,417	...	83,020	
Fuel.									
Firewood, c. ft. solid	...	37,440	1,872	...	71,544	3,252	1,380	...	1 cord=88c. ft.
Charcoal, c. ft.	...	9,359	836	...	2,196	172	...	664	1 md. =8 c. ft.
Total	...	46,799	2,708	...	73,740	3,424	1,380	664	
Grand total	...	...	2,43,145	...	...	1,60,841	1,380	83,684	

Net difference against the year R82,304.

Form No. 23. (*Paragraph 69*)

Abstract showing the Value of Live and Dead Stock for the year 1912-13.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	No.	Value.	No.	Value.	In favour of the year.	Against the year.	
1	2	3	4	4	6	7	8
Live Stock.		R	R	R	R	R	
Elephants	50	78,300	44	58,096	...	20,204	
Buffaloes	11	591	10	518	...	73	
Total live stock	61	78,891	54	58,614	...	20,277	
Dead Stock.							
Steam vessel "Rosamond"	1	1,29,174	1	1,25,712	...	3,462	
Steam launch "Eileen"	1	8,404	1	7,075	...	1,329	
Steam cutter "May"	1	2,424	1	4,050	1,626	...	
Steam cutter "Dorothy"	1	2,485	1	2,359	...	126	
Oil motor boat "Ruby"	1	300	...	280	...	20	
Lighters	2	1,530	2	1,306	...	224	
House boats	2	1,904	2	1,847	...	57	
Sailing boat "Sunbeam"	1	338	1	304	...	34	
Boats timber—towing	21	10,720	20	9,120	...	1,600	
Jolly boats	4	754	4	716	...	38	
Foresters' boats	1	598	2	568	...	30	
Dinghies	4	332	7	730	398	...	
Sawmill	...	15,860	...	15,416	...	444	
Butting engines	...	2,600	...	2,548	...	52	
Crane	1	154	1	146	...	8	
Portable Tramway	25¾ miles 1 locomotive 77 trucks 4 trollies.	74,407	25¾ miles 1 locomotive 78 trucks 4 trollies.	67,209	...	7,198	
Carts, small	7	146	5	114	...	32	2 condemned.
Buildings	...	11,236	...	10,316	...	920	
Mathemetical Instruments	...	631	...	7,405	6,774	...	
Do. do.	...	...	...	900	900	...	Found in stock.
Office furnitures	...	576	...	644	68	...	
Miscellaneous Stores	...	35,792	...	29,575	...	6,217	
Total dead Stock	...	3,00,365	...	2,88,340	9,766	21,791	R For ... 9,766 Against 42,068
Grand Total	...	3,79,256	...	3,46,954	9,766	42,068	Against 32,302
Total against	...	3,46,954	...	...	...	32,302	

Form No. 24—(*Paragraphs 60 and 69*).

Summary of Revenue of the Andamans Division during 1912-13.

REVENUE.

	Rs.	A.	P.
I.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—			
a. Timber	4,33,073	0	0
b. Firewood and charcoal	31,077	0	0
c. Bamboos	213	0	0
d. Sandal-wood	...		
e. Grass and other minor produce	2,347	0	0
TOTAL I.	4,66,710	0	0
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS—			
a. Timber	5,357	0	0
b. Firewood and charcoal	135	0	0
c. Bamboos	49	0	0
d. Grazing and fodder Grass	...		
e. Other minor produce	348	0	0
f. Forest stamps	...		
g. Other items	...		
h. Commutation fees	...		
TOTAL II	5,890	0	0
III.—DRIFT AND WAIF WOOD AND CONFISCATED FOREST PRODUCE	...		
TOTAL III	...		
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—			
a. Duty on foreign timber and other forest produce	...		
b. Revenue from shared and private forests	...		
TOTAL IV	...		
V.—MISCELLANEOUS—			
a. Fines and forfeitures	...		
b. Refunds	16	0	0
c. Other Sources	1,499	0	0
TOTAL V	1,515	0	0
GRAND TOTAL REVENUE	4,74,115	0	0

Form No. 24.—continued.

Summary of Expenditure of the Andamans Division during 1912-13.

EXPENDITURE.

A.—CONSERVANCY AND WORKS.

	Rs.	A.	P.
I. TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY GOVERNMENT AGENCY—			
a. Timber	1,27,526	0	0
b. Firewood and charcoal	14,740	0	0
c. Bamboos	3	0	0
d. Sandal-wood	...		
e. Grass and other minor produce	1,079	0	0
TOTAL A. I	1,43,348	0	0
II.—TIMBER AND OTHER PRODUCE REMOVED FROM THE FORESTS BY CONSUMERS OR PURCHASERS	93	0	0
TOTAL A. II	93	0	0
III.—DRIFT AND WAIF WOOD AND CONFISCATED FOREST PRODUCE	...		
TOTAL A. III	...		
IV.—REVENUE FROM FORESTS NOT MANAGED BY GOVERNMENT—			
a. Duty on foreign timber and other forest produce	...		
b. Revenue from shared and private forest	...		
TOTAL A. IV	...		
V.—RENT OF LEASED FORESTS AND PAYMENTS TO SHAREHOLDERS IN FORESTS MANAGED BY GOVERNMENT	...		
TOTAL A. V	...		
VI.—LIVE-STOCK, STORES, TOOLS AND PLANT—			
a. Purchase of cattle	...		
b. Feed and keep of cattle	14,896	0	0
c. Purchase of stores, tools and plant	12,283	0	0
TOTAL A. VI	27,179	0	0
VII.—COMMUNICATIONS AND BUILDINGS—			
a. Roads and bridges	1,066	0	0
b. Buildings	714	0	0
c. Other works	45	0	0
TOTAL A. VII	1,825	0	0
VIII.—ORGANISATION, IMPROVEMENT AND EXTENSION OF FORESTS—			
a. Demarcation	...		
b. Cost of Forest Settlements : compensation for land and rights	...		
c. Surveys	12,404	0	0
d. Working plans	10,314	0	0
e. Sowing and planting	5,668	0	0
f. Protection from fire	...		
g. Other works	86	0	0
TOTAL A. VIII	28,472	0	0
IX.—MISCELLANEOUS—			
a. Law charges	...		
b. Other charges	2,662	0	0
TOTAL A. IX	2,662	0	0
TOTAL A.—CONSERVANCY AND WORKS	2,03,579	0	0

Form No. 24—*continued.*

Summary of Expenditure of the Andamans Division during 1912-13.

	R	A.	P.
BROUGHT FORWARD, TOTAL A.—CONSERVANCY AND WORKS	2,03,579	0	0
B.—ESTABLISHMENTS.			
I.—SALARIES—			
a. Conservators	...		
b. Superior officers	30,644	0	0
c. Subordinate forest and depôt establishments	10,872	0	0
d. Office establishments	4,202	0	0
e. Deputation and special allowances	7,970	0	0
f. Exchange compensation allowance	...		
TOTAL B. I	53,688	0	0
II.—TRAVELLING ALLOWANCES—			
a. Conservators	...		
b. Superior officers	4,635	0	0
c. Subordinate forest and depôt establishments	1,642	0	0
d. Office establishments	...		
TOTAL B. II	6,277	0	0
III.—CONTINGENCIES—			
a. Stationery	45	0	0
b. Carriage of tents and records	...		
c. Rents, rates and taxes	...		
d. Pay of police guards	...		
e. Official postage	378	0	0
f. Sundries	497	0	0
TOTAL B. III	920	0	0
TOTAL B.—ESTABLISHMENTS	60,885	0	0
GRAND TOTAL OF EXPENDITURE	2,64,464	0	0
SURPLUS OR DEFICIT	+2,09,651	0	0

Form No. 25. (*Paragraph 69.*)

Account current for the Forest year 1912-13.

RECEIPTS.						PAYMENTS.					
	₹	a.	p.	₹	a.	p.		₹	a.	p.	₹	a.	p.
To Cash balance	...			2	8	11	I.—Refunds and drawbacks	...			60	3	10
„ Revenue as per annual summary, form No. 24	...			4,74,115	0	9	By expenditure as per annual Summary, form No. 24	...			2,64,463	13	0
„ Service funds	...			302	9	3	General Provident Fund	...			2,800	0	0
„ General Provident Fund	...			4,800	7	6	„ Deposits	...			...		
„ Deposits	...			...			„ Forest cash remittances, local—						
„ Income tax—deductions from salaries	...			1,038	13	6	Remittances to treasuries	...			3,22,940	15	1
							Inter-divisional transfers	...			...		
							„ Forest advances	...			23,646	11	4
„ Forest cash remittances, local—							„ Suspense	...			...		
Forest cheques drawn	...			99,781	1	11	„ Account current (other Governments)	...			...		
Inter-divisional transfers	...			...			„ Inter-departmental transfers	...			...		
„ Forest advances	...			23,709	11	4	„ Cash balance	...			...		
„ Suspense	...			0	8	7							
„ Account current (other Governments)	...			...			Exchange account with other Government account between India and Burma—						
„ Inter-departmental transfers	...			...			III—Items adjustable by India	44,604	3	8	...		
Exchange account with other Government account between India and Burma—							Account between India and Bihar and Orissa—						
III—Items adjustable by India	10,325	2	1	...			IV—Items adjustable by Bihar and Orissa	528	13	3	...		
Account between India and Bengal—							Account between India and Bengal—						
III—Items adjustable by India	1,551	9	2	...			IV—Items adjustable by Bengal	51,066	10	9	...		
Account between India and Bombay—							Account between India and United Provinces of Agra and Oudh—						
IV—Items adjustable by Bombay	...			11,876	11	3	IV—Items adjustable by United Provinces	44	9	10	...		
							Account between India and Madas —						
							III—Items adjustable by India	4,420	10	5	...		
Inter-departmental transfers—							Accounts between India and Bombay—						
Telegraph Department	150	0	0	...			IV—Items adjustable by Bombay	...			1,00,664	15	11
Post Office do.	339	8	0	...			Inter-departmental transfers—						
Marine do.	43,768	2	4	...			Marine Department	6,083	11	11	...		
Civil do.	1,06,208	12	11	1,50,466	7	3	Civil Departments	45,433	9	2	51,517	5	1
GRAND TOTAL	...			7,66,094	0	3	GRAND TOTAL	...			7,66,094	0	3

Annual Form No. 26. (*Paragraph 69.*)

Revenue received and outstandings on account of Revenue during 1912-13.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realised during year.	Balance due to the Department at end of year.	Remarks.
1	2	3	4	5	6	7	8
		R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	
Andamans	Revenue from timber, and other produce removed by Government agency.	70,349 8 10	4,76,064 12 2	5,46,414 5 0	4,66,709 12 8	79,704 8 4	
	Other Revenue	....	7,405 4 1	7,405 4 1	7,405 4 1	...	
	Total	70,349 8 10	4,83,470 0 3	5,53,819 9 1	5,74,115 0 9	79,704 8 4	

Annual Form No. 27. (*Paragraph 69.*)

Outstandings and Liabilities on account of Contractors and Disbursers for the Forest year 1912-13.

Division.	Department Debtor.			Department Creditor.			Balance Due.	
	Opening balance.	Recoveries in cash and value of supplies and work done during the year.	Total.	Opening balance.	Payments made during year.	Total.	To Department (Outstandings).	By Department (Liabilities).
1	2	3	4	5	6	7	8	9
	R a. p	R a. p.	R a. p.	R a. p.	R a. p.	R x. p.	R a p.	R a. p.
Andamans Forest Division.	...	23,709 11 4	23,709 11 4	105 11 6	23,646 11 4	23,752 6 10	42 11 6	...
Total	...	23,709 11 4	23,709 11 4	105 11 6	23,646 11 4	23,752 6 10	42 11 6	...

Appendix I.

Descriptive roll of Elephants in the Andamans Forest Division on 30th June 1913.

Serial No.	Name of Elephants.	Sex.	Height.		Date of receipt.	Estimated age 31st March 1892 or on date of receipt if received later.	Present age.	Number of years elephant has been working.	Condition.	No. of Days.			Cost price.	Remarks.
			Feet.	Inches.						At work.	At rest.	Sick.		
1	2	3	4		5	6	7	8	9	10			11	12
								Y. M.						
1	Arnold (Tusker).	Male	8	8	Before July 1891.	41	62	22 0	Fair	307	58	...	...	
2	Goolabi	Female	7	9	March 1895	40	58	18 0	Do.	220	145	...	2,605	
3	Viper	,,	7	10¾	Before March 1886.	36	57	27 0	Poor	74	108	183	...	
4	Bhokaung (Tusker).	Male	8	4	March 1894	36	55	19 0	Good	222	81	62	4,088	
5	Hannah	Female	7	6	Before July 1891.	33	54	More than 22 0	Fair	248	65	52	...	
6	Wellington (Tusker).	Male	8	3¼	March 1895	35	53	18 0	Do.	189	176	...	3,855	
7	Sahpah (Tusker)	,,	8	4	March 1894	33	52	19 0	Do.	199	88	73	3,533	
8	Mahpah	Female	7	11	Do.	31	52	19 0	Do.	105	66	194	2,813	
9	Pagi	,,	7	9	Do	32	51	19 0	Good	275	90	...	2,713	
10	Bhairon Pershad (Tusker).	Male	8	4	December 1895.	32	50	More than 17 6	Fair	234	127	4	3,488	
11	Australia	Female	7	7½	Before March 1886.	28	49	,, 27 0	Good	264	101	...	...	
12	Jangipuri	,,	7	10½	April 1891	27	49	22 0	Do.	125	94	146	3,025	
13	Paul (Tusker)	Male	8	8	March 1895	30	48	18 0	Very good	279	86	...	3,763	
14	Behram (Tusker)	,,	8	7	December 1895.	28	46	17 6	Good	261	104	...	3,355	
15	Mepu	Female	7	1	21st February 1907.	40	46	6 5	Fair	187	171	7	4,972	
16	Kowal	,,	7	9	26th April 1906.	28	45	7 2	Very good	259	106	...	6,312	
17	Adolphus (Tusker).	Male	7	11	Before March 1886.	23	44	More than 27 0	Fair	203	156	6	...	
18	Sooraj Mookhie	Female	...	...	11th February 1902.	33	44	11 4	Poor	...	...	...	4,523	Let loose.
19	Lily	,,	8	...	Do.	30	41	11 4	Fair	272	93	...	4,523	
20	Rani	,,	...	...	Do.	30	41	11 4	Poor	...	...	...	4,523	Let loose.
21	Bhola Nath (Tusker).	Male	8	6	28th January 1903.	30	40	10 5	Good	271	90	4	5,914	
22	Latchmi Pershad (Tusker).	,,	9	2	Do.	30	40	10 5	Do.	197	92	76	6,415	
23	Aurangabad	Female	7	8	May 1892	1	38	21 0	Very good	264	101	...	2,530	
24	Meerut	,,	8	4	11th February 1902.	27	38	11 4	Do.	277	88	...	4,523	
25	Sangesar Pershad (Tusker).	Male	8	7¾	3rd January 1905	30	38	8 6	Do.	263	102	...	6,464	
26	Gul Badan	Female	7	9	11th February 1902.	26	37	11 4	Do.	257	108	...	4,523	
27	Delhi	,,	7	10	Do.	26	37	11 4	Do.	251	114	...	4,523	
28	Moti Mallah	,,	7	10	Do.	25	36	11 4	Do.	250	108	7	4,523	
29	Gopal Das (Tusker).	Male	9	...	28th January 1903.	25	35	10 5	Do.	258	107	...	6,215	
30	Sunder Pershad (Tusker).	,,	9	1	Do.	25	35	10 5	Do.	273	92	...	5,915	
31	Tupong (Tusker)	,,	7	10	26th April 1906.	28	35	7 2	Good	245	106	14	6,312	
32	Pawan Peari	Female	7	5	25th May 1911.	32	34	2 1	Do.	233	129	3	5,543	
33	Ganga Pershad (Tusker).	Male	8	5	3rd January 1905.	25	33	8 6	Do.	222	143	...	6,464	
34	Amir (Tusker)	,,	8	4	28th January 1903.	23	33	10 5	Do.	216	149	...	5,915	
35	Sunder Mala	Female	7	3	25th May 1911.	30	32	2 1	Do.	257	108	...	4,893	
36	Madhoo	,,	8	...	26th April 1906.	23	30	7 2	Very good	233	132	...	6,312	
37	Beteswar	,,	7	1	25th May 1911.	30	32	2 1	Good	236	93	36	5,993	
38	Maxie	,,	8	8	Born in January 1886.	6	27	11 0	Very good	259	106	...	...	
39	Luchmania	,,	7	2	25th May 1911.	22	24	2 1	Do.	248	117	...	4,693	
40	Meg Mala	,,	6	10	Do.	20	22	2 1	Do.	201	164	...	4,392	
41	Sudamani	,,	6	7	22nd June 1911.	14	16	2 0	Do.	17	348	...	3,250	
42	Chester Bahadur	Male	8	6	Born in August 1897.	...	16	...	Do.	240	99	26	...	(Late Diamond Jubilee.)
43	Schlich Bahadur	,,	7	5	Born in January 1900.	...	14	...	Do.	205	160	...	...	(Late Nineteen Hundred.)
44	Joy Moti	Female	4	8½	25th May 1911.	2½	4½	...	Do.	...	365	...	375	Calf of Dharm Peari.

PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE ANDAMANS

FOR THE YEAR

1913-14

BY

J. L. BAKER
Deputy Conservator of Forests.

CALCUTTA
SUPERINTENDENT GOVERNMENT PRINTING, INDIA
1915

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No. 344-F., dated Simla, the 9th March 1915.

From—F. NOYCE, Esq., I.C.S., Under Secretary to the Government of India, Department of Revenue and Agriculture,

To—The Superintendent of Port Blair.

I am directed to acknowledge the receipt of your letter No. 3154-VII-22, dated the 23rd December 1914, with which you forwarded the report on Forest Administration in the Andamans for the year 1913-1914.

2. The Government of India are pleased to observe the progress made in forest survey and they consider that the work carried out in connection with the working plan reflects great credit on Mr. Bonig and the officers associated with him. They also endorse your commendation of the services of the Divisional Forest Officer.

441R&AD—500—18-3-15—GCBP Simla

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INTRODUCTION.

SUMMARY OF PROGRESS DURING THE FIVE YEARS 1909-10 TO 1913-14.

The following summary of the progress made in Forest Administration during the quinquennium ending with the year 1913-14 is now made for the first time in accordance with the instructions of the Inspector General of Forests.

Administration ; control.

2. The Andamans Division was twice visited by the Inspector General of Forests, *viz.*, by Mr. F. Beadon Bryant in February 1910 to inquire into the padouk trade : and by Mr. G. S. Hart from the 24th November to the 7th December 1913 in connection with the Working-plan and the future working of the forests.

Inspections of the office, and as much of the work in the forests as time permitted were made by the Conservators of Forests, Pegu Circle, Burma; Mr. C. E. Muriel in April 1910 ; Mr. C. G. Rogers in April 1911 and 1912 ; Mr. F. A. Leete in March 1913.

Government has decided that to ensure continuity of policy inspections shall ordinarily be made by the Inspector-General every two or three years ; and that interim office inspections shall be made by the Divisional Officer, reporting to the Chief Commissioner and the Inspector General.

3. The following Officers held charge during the quinquennium :—

Charge.

Sir Henry A. Farrington, Bart., Deputy Conservator of Forests, from 1st July 1909 to 6th November 1911 ; and Mr. J. L. Baker, Deputy Conservator of Forests, from the 7th November 1911 to the 30th June 1914. Mr. H. K. Robinson, Deputy Conservator of Forests, held charge for 3 months and 10 days from 25th July 1909 to 3rd November 1909 while the permanent incumbent was on privilege leave, whilst in a similar case Mr. B. P. Kelly, Extra Assistant Conservator of Forests, held charge temporarily from 13th September to 17th October 1913.

Gazetted Assistants.

4. Mr. R. R. O'Hara, Extra Assistant Conservator of Forests, held charge of the Wimberleyganj sub-division from 1st July to 12th November 1909 when he was relieved by Mr. B. P. Kelly, Extra Assistant Conservator of Forests, from Burma. The latter remained in the Division till the 27th December 1913 when he reverted to Burma.

Mr. M. C. C. Bonig, Extra Assistant Conservator of Forests, was in charge of the Chatham Sub-division, including all timber transport and forest camps from 1st July 1909 to 5th April 1912, when his services were lent to the Government of Burma from 6th April to 7th June 1912, when he went on 3¼ months privilege leave on return from which on 15th September 1912 he was placed in charge of the Working-plan, in which he continued to 31st August 1914 when the work was completed.

Mr. Bonig received the Kaisar-i-Hind medal of the First Class on the occasion of the Coronation Durbar in December 1911 and was promoted to Extra Deputy Conservator on 1st May 1914.

Mr. A. R. Brown, Extra Assistant Conservator of Forests, arrived from Burma to relieve Mr. Bonig on 28th March 1912, and as it was necessary to have an additional officer during the time that the Working-plan was in progress, his services were retained to the end of the quinquennium. But as the Working-plan was well in hand by December 1913 no officer was required to replace Mr. Kelly.

As four officers were sanctioned for the Andamans in the Secretary of State's Despatch No. 26 (Revenue) dated the 10th February 1905, and as Burma could not spare more than one officer up to 1910, and as a third officer was urgently needed and was not forthcoming from other Provinces, Mr. W. H. Miller, who held the Dehra Dun certificate, and had served in the Federated Malay States as a Ranger, was appointed Extra Assistant Conservator of Forests,

3rd grade on probation from 21st July 1910. He had been in the employ of a timber firm in Burma and was supposed to have a good working knowledge of elephants and timber extraction.

Mr. C. E. Parkinson, Extra Assistant Conservator of Forests, passed second out of the Ranger's Class 1910-12 at the Forest College, with Honours and a gold medal. He was appointed Probationary Extra Assistant Conservator of Forests from 1st July 1912 and confirmed as Extra Assistant Conservator of Forests on 1st July 1914.

Subordinate staff.

5. It has not been possible to recruit a single trained Ranger during the quinquennium: hence the necessity of employing a larger number of Gazetted Officers. Now that promotion to the Provincial Service is practically closed to Forest Rangers the difficulty of getting Rangers is considerably increased. The one trained Ranger in the Division, Mr. C. Alfred, has now completed 6 years service and under the rules in force when he joined should have been promoted to the Provincial Service by now. He is fit for, and deserving of the promotion for which he has been duly recommended.

Two or three Anglo-Indian youths have joined as Deputy Rangers in the hope of being sent up for training in the Rangers Class. Otherwise the lower subordinate staff is composed almost entirely of local men, among whom hitherto, satisfactory men have been rare exceptions.

Office Establishment.

6. At the beginning of the quinquennium the clerical staff of 5 clerks was altogether inadequate. It was increased to 9 appointments on the 17th May 1913 and is now at full strength.

General.

7. The sanctioned scale of establishment is sufficient for present needs; and if it were possible to get the 3 trained Rangers, there would be one Gazetted Officer in excess.

In view of the possibility of a lease of the outturn of the North and part of the Middle Andamans being taken up additional establishment was asked for but this matter of additional staff has been postponed by Government until the question of the lease or future working of the forests is settled.

Another question is that of getting a Sawmill Engineer to replace the late Foreman who has been transferred to other employment in the Settlement. This has been postponed until the matter of a new sawmill is settled.

Changes in area.

8. The area of so-called Reserved Forests stood at 161 square miles at the commencement, and at 85 square miles at the close of the quinquennium, and is ample for the requirements of the Settlement.

The principal exclusions were 5 square miles in 1910-11 to enable Settlement Officers to cut fuel for the salt works; and 71 square miles in 1913-14 which were situated in the Jarawa country where they could be no possible use to the Settlement. Minor alterations appear in Form No. 7 for 1913-14.

Nominally all unoccupied forest land in the islands is unclassed forest in charge of the Forest Department. The only open country, cultivation and houses are found in the Settlement in the South Andaman, which covers about 45 square miles, including all land occupied by Government buildings and so forth.

The area of all the islands is reduced from 2,508 square miles to 2,254 square miles by the recalculation made by the Forest Map Office at Dehra Dun, and the revised areas are now shown.

The Nicobar Islands, 635 square miles, have never been taken into account in the Annual Reports and returns of the Division, though they have been shown in the Inspector General's Annual Reviews and Statistical Tables.

Forest Settlement.

9. No addition was made to the area of Reserved Forests during the quinquennium; and none is urgently required. A few areas can be added later on.

It should be noted that the reserves have precisely the same status as the unclassed forest under Regulation III of 1876 which in Section 10 merely provides for the regulation of the extraction of timber and other produce by the inhabitants.

Demarcation.

10. The total length of artificially marked boundaries was 75 miles in 1909-10 which was reduced to 50 miles in 1913-14. There has been no boundary survey.

Forest survey.

11. A survey of the Middle Andaman on the scale of 2 inches to 1 mile was commenced as a local survey with surveyors deputed from the Survey of India in November 1912. The traversing was practically completed by May 1913 and it was then decided that the Survey of India should undertake the work. The work was resumed in October 1913 with a Provincial Survey Officer in charge. An area of 302 square miles was plane-tabled by May 1914. It was eventually decided to survey not only the *padouk*-bearing portion of the Middle Andaman, but also Baratang Island about 80 square miles, which is rich in *padouk*, and the work is in progress.

Working-plan.

12. After desultory correspondence up to July 1910, the Working-plan first mooted in 1900 was taken up in earnest in 1912. The estimate of cost was submitted on 24th April, and the Preliminary Working-plan report on 13th July 1912. Mr. M. C. C. Bonig, Extra Assistant Conservator of Forests, was appointed Working-plan Officer to collect the necessary data and took up his duties on his return from leave in September 1912. The enumerations were commenced in November 1912 and continued up to May 1913. The work was resumed in November 1913 and completed in May 1914; it included a test re-enumeration of three compartments in the North Andaman in order to ascertain the proportion of sound to unsound *padouk* of 9 ft. girth and over, as in Mr. F. H. Todd's Working-plan for the North Andaman the first class was taken at 7½ft. girth and over, which recent experience showed to be too low for the first cycle of fellings. The plan for the North Andaman, which had never been put in force, owing to the lease of that Island not having been taken up, was accordingly revised and incorporated in the new Working-plan which was completed on the 31st August 1914 or two months after the close of the period under review.

The area under the Working-plan is 708 square miles, the remainder of the area being considered unworkable at present.

The work is very creditable to the Working-plan Officer Mr. M. C. C. Benig now Extra Deputy Conservator of Forests, who completed it at a cost considerably below the original estimate.

Communications and buildings.

13. The only land line of communication is the steam tramway through the Wimberleyganj and Goplakabang valleys, from Kadakachang to Shoal Bay creek, having a length of 6 miles.

The line was considerably improved during the period under review, and the average annual expenditure was R2,014.

The cost of temporary feeder lines, repairs of rolling stock, and operation is debited to fuel extraction, though timber was carried over the line in 1909-10 and 1910-11 before the arrival of the steamer *Rosamond*.

Buildings cost an average of R1,433 annually and up to 1911-12 included temporary huts at timber extraction camps, properly debitable to timber.

A house was built in 1909-10 at a cost of R910 for the Assistant at Chatham: and a rest-house at Long Island in 1912-13-14 at a cost of Rs. 603 for labour only.

Forest Offences.

14. The forest offences reported are not numerous or very serious. They consist principally of infractions of local rules made under Section 10 of Regulation

III of 1876 which empowers the Chief Commissioner to grant licenses to remove timber and other produce on such terms as he may think fit.

The power to grant licenses has been delegated to the Forest Officer and his Assistants under a set of rules, which apply equally to unclassed forest and to the so-called 'Reserved Forests' which have no separate legal status under the Regulation quoted.

There is no serious pressure on the forest, and the reserves are for the most part scarcely touched.

The average number of offences prosecuted was 7 for a village population of about 2,500 adults which includes some 1,300 male self-supporting convicts. There is no machinery for the compounding of forest offences by the Forest Officer.

Protection from fire.

15. The risk of fire in the natural forests is negligible. No fire is known to have occurred during the quinquennium. The writer attempted to start a fire in April 1913 at the height of a very dry season by way of experiment, but the fire burnt itself out in a small radius.

In plantations, however, especially in the rubber plantation where there is much grass until a closed canopy is formed, there is risk of fire and suitable precautions are taken from February to April. Ten acres of the *padouk* plantation of 1909 were accidentally burnt in 1911.

Protection from cattle.

16. About 344 square miles of unclassed forest in the South Andaman are nominally open to grazing, but in practice but a very small area, if any, is actually resorted to, as there is not a blade of grass in the forests.

The number of cattle impounded for trespassing, chiefly into the rubber plantations at Goplakabang, rose from 20 in 1909-10 to 347 in 1910-11. It has been suggested that the graziers' village at Wimberleyganj be removed elsewhere.

Sylviculture.

17. Natural reproduction of *padouk* was observed in 1909-10 on Rutland along drag-paths, the old tram-line, and in gaps caused by fellings, but for want of labour assistance could only be given on small areas near the extraction camps.

It was also noticed in Baratang in the following year, when the work continued on a small scale.

In 1912, as a result of the inspection by Mr. C. G. Rogers, Conservator of Forests, Pegu Circle, in the previous year, some 9,000 acres were cleared on Rutland and 6,000 in Baratang at a total cost of Rs. 1,249. This was made possible by the slackness in the *padouk* timber trade at the time.

In 1913 and 1914 nothing could be done on account of the Working-plan and Survey operations.

Plantations.

18. *Mangroves.*—The area re-stocked in Port Blair stands at 685 acres, which can hardly influence the Settlement fuel supply. There are no areas left which can profitably be sown.

Para rubber.—The area on 30th June 1914 stood at 191½ acres. Some 550 trees planted in 1906 were tapped in 1913-14 and a sample of rubber biscuit was sent to brokers in London for sale and report.

The work is done by the Forest Department because no other agency is available. Labour is supplied for this purpose which would otherwise be used on coconut plantations. The object is to show what products can be grown in the Islands with a view to their future development.

Padouk.—The so-called *taungyas* or sowings of *padouk* in lines on ground cleared and burnt over continued up to 1911 when the area stood at 1,300 acres.

Padouk and Teak.—Broad-cast sowings on ground prepared in a similar way were made in 1912, 1913 and 1914, in the last 2 years interplanted with teak sown at stake 3 ft. apart in lines 24 feet apart. The teak is quite promising.

19. The sub-joined statement shows the outturn for each year, the total outturn of the period under review and the annual average, as compared with the total outturn and average for the previous quinquennium.

Yield and outturn.

Year.	Timber.		Fuel.		Bamboos.		Minor produce. Value.
	Departmental.	Others.	Departmental.	Others.	Departmental.	Others.	
	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	₹
1909-10 . . .	3,74,378	1,28,843	6,75,980	4,26,977	22,915	11,69,987	8,672
1910-11 . . .	7,53,513	1,30,162	6,92,280	3,65,520	21,086	9,05,537	4,476
1911-12 . . .	4,74,781	1,18,724	13,16,489	3,53,180	33,094	6,80,442	4,019
1912-13 . . .	6,52,249	88,193	9,50,077	3,79,160	21,553	7,22,680	3,526
1913-14	6,12,667	95,304	7,24,464	3,89,120	60,473	7,32,617	4,660
Total .	28,67,588	5,61,226	43,59,290	19,13,957	1,59,121	42,11,263	25,353
Average annual outturn	5,73,518	1,12,245	8,71,858	3,82,791	31,824	8,42,253	5,070
Total 1904-05 to 1908-09	26,73,134	8,44,026	33,92,483	16,00,344	72,794	43,42,976	39,669
Average . . .	5,34,626	1,68,805	6,78,496	3,20,068	14,558	8,68,595	7,934

The principal timber extraction is necessarily departmental, but the average annual sales to local purchasers in the forest was 38,443 c. ft. whilst the Settlement by its District Officers cut an average of 41,648 c. ft. annually.

For the whole period the percentages for timber are as follows: departmental 84 per cent.: purchasers 5 per cent.; District Officers 6 per cent.: privileged villagers 5 per cent.

The percentages for fuel are: departmental 70; purchasers 3; District Officers 7; villagers 20.

The bulk of the bamboos, and minor produce are cut by purchasers and free grantees as the Forest Department only supplies this class of produce on special indent as required.

20. The revenue and expenditure during the period under review is compared with the revenue and expenditure of the previous five-year period in the following statement:—

Financial results.

Year.	Revenue.	Expenditure.	Surplus.
	₹	₹	₹
1909-10	3,32,495	2,17,267	1,15,228
1910-11	4,03,806	2,48,233	1,55,573
1911-12	4,59,238	2,31,557	2,27,681
1912-13	4,74,115	2,64,464	2,09,651
1913-14	4,08,120	2,72,683	1,35,437
Total .	20,77,774	12,34,204	8,43,570
Average 1909-10 to 1913-14 . . .	4,15,555	2,46,841	1,68,714
Average of the preceding five years . .	3,33,279	2,17,164	1,16,115

The low revenue in 1909-10 was due to stagnation in the *padouk* market. A high price was obtained in 1911 followed by a set-back in 1912 since when the price has been fixed by Government.

The expenditure has been abnormal throughout the quinquennium. The new steel hull of the steamer *Rosamond* cost ₹94,746 distributed over the first three years. The electric light installation in this vessel cost ₹8,632, and her first two refits at Kidderpore dockyard in 1912 and 1913 cost ₹40,499. The Government of India have since sanctioned the sending of this vessel to Rangoon for cleaning below the water-line; and the other ordinary repairs will be carried out in the local Dockyard.

In 1912-13 and 1913-14 extraordinary expenditure on the Working-plan and Survey amounted to ₹18,433 and ₹33,501 respectively: whilst an additional officer for the Working-plan cost ₹14,000, the remainder of the permanent establishment engaged being merely diverted from other duties.

General.

21. The principal feature of the period was the recognition by Government of the necessity for setting up a new sawmill in order to prepare timber for the market which is not saleable in the log.

The proposals began with a semi-portable sawmill and developed eventually into a proposal for a new sawmill at Chatham and a special sleeper mill and creosoting plant to turn out sleepers for State railways.

The old sawmill was retransferred from the Public Works Department to the Forest Department from 1st April 1912. Its condition is deplorable.

Elephants.—Eight elephants including one calf, were purchased at a cost of ₹38,000 and arrived in June 1911.

Six elephants died in 1912-13, of which two were past work. The elephant which died in 1913-14 had been turned loose in the previous year as being of no further use.

J. L. BAKER,

Deputy Conservator of Forests,
Andamans Division.

PORT BLAIR,
The 18th December 1914.

Report on Forest Administration in the Andamans for the year 1913-14.

CHAPTER I.—CONSTITUTION OF STATE FORESTS.

SECTION 1.—ALTERATION IN AREA. (*Form No. 7.*)

1. With the exception of about 45 square miles of country in the South Andaman, in the vicinity of Port Blair, comprising village sites, cultivation and grazing lands, Government coconut and other plantations, sites of barracks and other public buildings and open spaces which form the Settlement, all the islands in the Andaman group are forest-clad and constitute unclassed forests at the disposal of Government in charge of the Forest Department.

Certain areas have been demarcated or otherwise set apart as 'Reserved Forests' by executive order in the interests of the Settlement but their legal status in no way differs from that of the remaining unclassed forests of the South Andaman Island to which alone the provisions of Regulation III of 1876 have been applied so far.

2. The total area of the Andaman group including all small islands is given in the Census Report 1912, and the Gazetteer as 2,508 square miles, but on a recent reference to the Survey of India the correct area has been ascertained to be 2,254 square miles. The islands were surveyed on the scale of 2 miles to one inch in 1884 to 1886.

The area of the principal islands is shown in Form No. 7, the alterations being due to recomputation.

3. The area of Reserved Forests in the South Andaman Settlement was reduced during the year by 45,530 acres or 71 square miles by elimination of the areas given below :—

1. Middle Strait	23,411	acres.
2. Port Meadows	12,160	„
3. Shoal Bay	9,728	„
4. Minnie Bay	231	„
	45,530	„

The first three blocks were situated in the Jarawa country remote from any village in the Settlement which they could not benefit in any way so long as they are occupied by this hostile tribe. They had never been demarcated and existed merely on paper.

When that part of the country is eventually opened up it will be time to set apart suitable areas as Reserves above, say, 150 to 200 feet elevation.

The Minnie Bay area has been planted with coconuts for which it is by its situation especially adapted. The big timber was extracted by the Forest Department for conversion in the sawmill, and a considerable quantity of fire wood was cut by the Settlement.

4. Including the late Minnie Bay Reserve some 594 acres of unclassed forest have been cleared for coconut plantations and extensions of cultivation or grazing grounds. Clearings of secondary growth are not taken into account.

Details of these changes are given in Form No. 7.

SECTION 2.—FOREST SETTLEMENTS. (*Form No. 8.*)

5. No area was declared Reserved Forest during the year. The present reduced area is sufficient for the needs of the Settlement. Besides the 'Reserves' which are hardly drawn upon as yet by the people, there are still considerable tracts of unclassed forest including some of secondary growth, interspersed among the villages.

Portions of the reserved blocks are likely to be disforested in the near future to improve boundaries, or increase grazing grounds, and especially for extensions of the coconut plantations.

If necessary, other areas can be reserved on the confines of the Settlement which are of no use for other purposes but will supply fuel and house-building materials.

A formal enquiry is perhaps desirable in the case of future reservations. Hitherto they have for the most part been settled by correspondence. Then once created, they should only be disforested in order to secure a positive gain either to Government or the community.

SECTION 3.—DEMARCATION. (*Form No. 9.*)

6. For want of labour no demarcation or repair of boundaries was carried out during the year. The demarcated boundary of the Ali Musjid and Dhanikhari Blocks, 13 miles, was inspected and reported on by the Deputy Ranger in charge of the Revenue Range. Stone marks will be set up on these two boundaries.

The total length of boundary, after exclusion of 4 blocks of reserved forest, is now 136 miles, of which 86 are natural boundaries and 50 are demarcated.

SECTION 4.—FOREST SURVEYS. (*Form No. 10.*)

7. The Superintendent, Eastern Circle, Survey of India, deputed a detachment of 8 surveyors in charge of a Provincial Officer to continue the survey of the Middle Andaman. They arrived on the 2nd October 1913 and left on the 16th May 1914. They experienced considerable difficulties in the course of the season. They plane-tabled an area of 302 square miles. Stone marks were set up at the corners of traverse blocks or intersections of main enumeration lines which are shown on the maps in the same way as fire-lines in India, and will form compartment boundaries. Chocolate proof prints of the plane-table sheets were received after the close of the year. The expenditure of the year was R21,097 and the total cost up to the end of the year was R33,501.

8. An area of 150 square miles remains to be plane-tabled in the Middle Andaman, and it has been decided to survey also during the ensuing season Baratang Island, 80 square miles, which is rich in *padouk*.

9. The North Andaman, area 552 square miles, should likewise be surveyed on the two inch scale as soon as circumstances permit, as it will greatly facilitate the working of the forests now and the revision of the Working-plan 15 years hence.

10. The total expenditure on the constitution of State forests was R21,097 representing the cost of the survey only.

CHAPTER II.—MANAGEMENT OF STATE FORESTS.

SECTION 1.—REGULATION OF MANAGEMENT.

(*a*) *Preparation and control of Regular Working-plans.* (*Form No. 11.*)

11. The Working-plan for the Andamans forests, including the revision of Mr. F. H. Todd's Working-plan for the North Andaman was completed and submitted on the 31st August 1914. The total area covered by the plan is 708 square miles of which 317 square miles are in the North Andaman, and 391 square miles in the Middle and South Andamans and adjacent islands. The remaining areas are for various reasons unworkable.

12. The field work was resumed on the 19th November 1913 and completed on the 19th May 1914. The cost of the season's operations was R8,119 exclusive of the salaries of the Working-plan Officer and his assistants which were debited to establishment.

From this sum of R8,119 a sum of R2,882 may fairly be deducted as being properly debitable to other heads : *viz.*, R600 for Willesden canvas paulins still on stock and used for other purposes, debitable to A vi c ; R1,061 for

clothing of the Police detachment guarding the boats of the Working-plan and Survey parties ; and R1,221 for providing the steamer *Nancowry* with new condenser tubes because the local Marine Department lacked the necessary funds to carry out this very urgent repair.

13. Mr. F. H. Todd's plan covered an area of 317 square miles which, however, includes areas of mangroves fringing his compartments, and the enumerations cost R19,889 for 98,464 acres or 3 annas per acre of *padouk* bearing forest which includes patches of evergreen forest.

The recent operations in the Middle and South Andamans extended over 391 square miles exclusive of mangrove forest and enumerations over 247,748 acres cost R31,388 or 2 annas per acre.

In the latter, the *padouk*-bearing area is 180,448 acres and the rest consists of patches of evergreen forest interspersed among the *padouk* forests, and traversed by the enumeration lines.

14. The estimate sanctioned for the Working-plan, as distinct from the survey, which was originally intended to be carried out by local agency, was R50,259.

The actual cost was follows :—

	R	R
Salaries of Working-Plan Officer and permanent establishment.		17,983
Expenditure A viii d :—		
1912-13	10,314	
1913-14	8,119	18,433
Total .		36,416
Deduct expenditure wrongly charged :—		
1912-13	2,146	
1913-14	2,882	5,028
Net cost .		31,388

Even if these deductions are not made the expenditure is still R13,943 below the sanctioned estimate, for which result great credit is due to Mr. M. C. C. Bonig, Extra Deputy Conservator of Forests who conducted all the field work and compiled the plan.

Mr. C. E. Parkinson, Extra Assistant Conservator of Forests and Mr. C. Alfred, Forest Ranger, are especially commended by the Working-Plan Officer for their zeal and good work.

(*b*) *Preliminary Working-plan reports.*

15. In March 1914 Mr. Bonig explored portions of the Great Nicobar, Nancowry and Kamorta islands in the Nicobars, making enumerations on about 66 acres. The forests do not appear to have much prospective value.

He was unable to visit the Little Andaman.

All areas with which we can deal at present in the Andaman group are included in the Working-plan.

(*c*) *Annual plan of operations.*

16. Owing to all the available staff and labour being engaged on the Working-plan and survey it was not possible to do more than carry out the contracts for timber, and meet as far as possible the requirements of the Settlement in timber, fuel and minor produce.

Considerable attention was, however, paid to the upkeep and extension of plantations.

SECTION 2.—COMMUNICATIONS AND BUILDINGS. (*Form No. 12.*)

(*a*) *Roads and Bridges.*

17. *The Wimberleyganj tramway.*—The total length of permanent way remains unchanged at 6 miles with 36 masonry, 25 wooden bridges, and one corrugated iron culvert.

Two short sidings of 290 feet were laid during the year; one of 130 feet being at the fuel loading ghat from the main line to a new jetty to permit of the locomotive being embarked on a lighter and conveyed to the Marine yard for repairs.

The timbers of 5 bridges were renewed with beams of *Mesua ferrea*, gangaw or Assam iron-wood.

Padouk sleepers 5,589 and mohwa (*Mimusops littoralis*) 394 were laid during the year. In order to test their durability the year and month were cut into the wood : to follow up the test more easily they have been laid in sections and not scattered over the whole line.

About $1\frac{3}{4}$ miles of the line have been ballasted with good stone ballast with very good results. This work can only be done gradually owing to the shortage of labour.

18. The expenditure on maintenance of the permanent line was R1,407 as against R1,066 in the previous year.

The value of the sleepers and timber used is estimated at R4,046.

19. The rolling stock consists of two locomotives (one belonging to the Settlement) 48 large and 13 small wooden trucks, 16 iron trucks, and 4 trollies.

Two large trucks were made during the year and three were lent to the Settlement for transport of fuel at Haddo.

There was no derailment during the year.

20. There were transported over the line 4,339 cords of fuel valued at R17,356 against 6,905 cords in the previous year. The falling-off is due to the fuel operations of the Settlement in connection with the clearing of jungle in the Haddo gardens and for extensions of the coconut plantations.

21. *Temporary lines* stood at 4·81 miles at the close of the year, and cost for maintenance, lifting and laying R1,059 as against R1,331 in the previous year. The cost was charged as usual to extraction of fuel.

There were 2·95 miles of high level lines on the hills by which fuel is hand-trucked to 6 fuel shoots by which the billets are brought down to the main line or its branch lines.

There were 1·86 miles of temporary branch lines connected with the permanent main line.

As the extraction of fuel gets further away from the main line more use will have to be made of simple wire ropes for transport of fuel by gravity. It has already been successful on a small scale. A simple effective and inexpensive carrier is required.

(*b*) *Buildings.*

22. *Permanent buildings.*—In accordance with Section 324, Andaman and Nicobar Manual, all permanent buildings in the Settlement have to be constructed and kept up by the Executive Engineer. Consequently most buildings occupied by the Forest Department and the Forest staff belong to the Public Works Department and up to last year were maintained from the Public Works budget.

The Forest Department possesses no permanent buildings in Port Blair except three convict barracks and a Ranger's house at Wimberleyganj, a Ranger's house at Haddo, the Assistant's House at Chatham and some sheds.

23. A new departure was made during the year whereby the Forest Department is required to pay for repairs to the office and all houses occupied by officers and staff. This naturally involves the free grant of the necessary timber, whereby the Public Works budget grant can be made to go further for

other civil works—since it is relieved of the necessity for paying for timber for any building occupied by the Forest Department or the forest staff.

Since the effect is to reduce the Forest surplus by increasing the expenditure the result to the Settlement as a whole is much the same in the end.

24. Under the above arrangements the repairs and repainting of the Extra Deputy Conservator's house on Chatham cost R476, whilst the departmental work was as follows :—

New Work.—Long Island Rest House R18. Boat House at Chatham R26. House for clerk at Wimberleyganj in part R14. Total R58.

Repairs.—Barracks at Wimberleyganj R29: purchase of crude petroleum for treating shingles R153: Reroofing lean-to shelter of store godown R13. Total R195 or including work done by the Public Works Department R671.

It should be observed that the departmental charges are only for labour at 4 annas per man per day. All materials were drawn from the Forest Store godown where a large stock is kept.

In future, however, it will be possible to show the true cost of all works in the Cash accounts because a Central Stores branch is being started for the Settlement from which stores and materials will be purchased by book-transfer and charged to the work on which they are used. This is a great gain in the interest of correct accounting.

25. *Temporary buildings.*—These are mostly bamboo and cane leaf huts at the Forest Camps for the Forest staff, the Military Police, and the men. The total cost amounted to R706 as against R325 in the previous year and was charged in accordance with Appendix X of the Forest Department Code to the departmental extraction of timber and fuel under the appropriate sub-heads.

(c) *Miscellaneous works.*

26. A sum of R1 was spent on clearing the compound of Long Island Rest House and is shown on Form No. 12.

For future reference it is noted that in addition to the examples given in Appendix X of the Forest Department Code the cost of construction of permanent jetties or landing stages comes under this head.

SECTION 3.—PROTECTION OF FORESTS.

(a) *General protection.* (*Form No. 13.*)

27. There were 10 cases of unauthorised felling reported involving 16 persons who were prosecuted, as against 6 cases involving 8 persons in the previous year. In 6 cases involving 11 persons one self-supporter convict was reduced to labouring convict, one was fined R30, two were fined R20 each, one was fined R10, five were fined R5 each, and one was fined R3.

The other 4 cases resulted in the acquittal of 5 persons.

(b) *Protection from fire.*

28. No fire occurred during the year.

(c) *Protection from cattle.* (*Form No. 16.*)

29. The number of cattle impounded was 347 against 58 in the previous year. The large increase is attributed to the fact that a large area was cleared for planting rubber near village grazing ground and 161 head were impounded during the two hot months of April and May when all grass is dried up and while herdsmen sleep their cattle stray in search of fodder.

There was one case of obstructing the plantation watch-man when impounding cattle, for which the offender, a self-supporter convict, was reduced to labour for six months.

About 344 square miles in the South Andaman are nominally open to grazing.

(*d*) *Protection against injuries from natural causes.*

30. *Damage by insects.*—The damage done by insects to *padouk* seedlings in broadcast sowings of 1913 was scarcely noticeable. Mr. Brown reports that where the tops of the seedlings are free the top shoots were not attacked, but where weeds tended to suppress the *padouk* the shoots had been ringed as before.

It is pointed out that in the earlier plantations 1903 to 1911 seeds were sown at stake 6′ × 6′ and the intervening jungle was encouraged to clean off the side branches, but with broadcast sowings all weeds are removed.

Damage by pig.—Wild pig did some damage in the rubber plantation by biting off the seedlings near the ground.

Birds did some damage by perching on the tops of young rubber plants and breaking off the tender shoots. When the plantation is hoed they come in large numbers in search of grubs. Bamboos were stuck in the ground for the birds to perch on.

Climbers are not given much chance to do any damage in the *padouk* plantations. But they increase the cost of weeding considerably. If not constantly attended to they would rapidly suppress all seedling growth.

SECTION 4.—SYLVICULTURE.

(*a*) *Natural reproduction.*

31. No work was done during the year with the object of assisting the natural reproduction of *padouk* in the forests, as in the open season all the available labour was employed on the Working-plan and Survey, and when the rains began all the men were turned on to extraction of timber to make up for lost time in that branch.

From experience gained with small areas in the Goplakabang reserve and elsewhere it does not appear that any measures for the simple assistance of natural reproduction are practicable. Such operations tend to become regular cultural operations of an intensive nature; and apparently must do so to be of any use.

We have, of course, still to experiment on areas of deciduous forest such as are found in the North and Middle Andaman where the forest is more open and the *padouk* already reproduces itself to a small extent. The distance from Port Blair, and the scarcity of staff and labour are obstacles, which we may hope to overcome in a year or two.

(*b*) *Artificial reproduction.* (*Form No. 18.*)

Regular plantations.

32. *Mangroves.*—No sowing was done in the year under report. The blanks in Dhanikhari Reserve mentioned under this head in the last three years' Annual Reports are not worth planting up. The existence of a *bund* right along the boundary of this reserve interferes not only with the regular tidal flow but also with the flow of fresh water in the rains from up the creek. Unnatural conditions having been created no satisfactory results can be expected.

The total area of mangrove plantations in Port Blair is about 685 acres which even on a 20 year rotation would go but a very small way to meet the Settlement fuel requirements. The best use to put them to is to keep them to ensure a regular supply of *ballis* to fence the timber depôts, and a small quantity of firewood.

33. Considerable areas which formerly carried mangroves have been rendered unfit to produce these species by the building, in years gone by, of miles of embankments with the object of growing coconuts within the embankments, which, however, admit enough salt water, and in the rains hold up enough fresh water, to prevent the coconut palm from flourishing and, at the same time, hinder the natural flow of the waters so essential for the growth of mangroves. The proof is to be found in the fact that blanks of this nature

exist nowhere in the Andamans save in Port Blair behind these embankments. And where such embankments are breached the mangrove proceeds to sow itself. A good example of this is to be seen at Brigade Creek ferry.

Incidentally the embankments are said to create conditions favourable to a bad malarial mosquito which flourishes in brackish or semi-salt water.

34. *Rubber* (*Hevea brasiliensis*).—The area of the plantations given in paragraph 36 of last year's report is 137 acres. Mr. A. R. Brown, Extra Assistant Conservator of Forests, points out that if the number of trees and their spacing is taken into account this area should be reduced by 35½ acres, and this has now been done. A more accurate method would have been to survey the area but the services of a surveyor were not available.

35. *Extension.*—The plantation was extended by about 90 acres during the year ; 9,380 surviving plants were planted 22′×22′ triangular which gives 104 plants to the acre.

The figure for last year having been reduced from 137 to 101½ acres as explained above, the area on the 30th June 1914 stood at 191½ acres.

36. As the nursery of 1912 proved a failure it was decided to try stumps, and 5,057 two-year old and 19,299 one-year old stumps were imported from Ceylon. The former were an absolute failure as about half were dead when they arrived in Port Blair in August 1913. The one-year old stumps were not much better. About 60 per cent. put forth shoots with leaves of an unhealthy appearance. They never developed a proper root system and died off in consequence at the end of the monsoon. The lateness of their arrival in Port Blair may account in part for the failure ; for the dry season begins in January and it is necessary to plant as early in the rains as possible.

The total cost of the rubber stumps including freight amounted to R1,216.

37. *Nursery.*—During the months of August, September and October 1913 nearly 75,000 seeds were imported, about 22,000 from the Mergui Crown Rubber plantation, and about 53,000 from Ceylon, whilst 9,900 seeds were obtained locally. The nursery was on low ground and was on two occasions submerged by floods so that only 15,000 seedlings were obtained. Of these 7,000 were put into baskets soon after the seed had germinated, and were planted in November and December, whilst 8,000 were left in the nursery for planting in June 1914, and these attained a height of 8 to 10 feet in 10 months. Of the 8,000, some 6,768 were strong plants and were stumped before planting out.

About the end of March 1914, 20,000 seeds were obtained from Singapore and sown in a new nursery on well-selected ground safe from floods. Some 8000 germinated and 7,416 were transplanted into baskets for planting in the rains without injury to their root system and 4,180 were planted out by the end of the year.

The cost of the nursery amounted to R608, and the imported seed cost R1,050.

38. The details of plants put out during the whole year are as follows :—

7,000 seedlings in baskets planted out in November 1913 of which 4,000 survive.

22,000 stumps put out in August and September 1913 of which 1,200 survive.

4,180 strong plants in baskets planted out in June 1914 giving a total of 9,380 plants.

The expenditure on rubber excluding the cost of imported stumps amounted to R12,161.

At the close of the year there remained 10,000 good basket plants and locally raised stumps which were planted out after the 1st July.

39. *Cultivation.*—The whole of the plantations were hoed up once and portions were hoed a second time during the year. As the labour supply was insufficient the ground was only hoed in the dry season around the trees on a radius of about 4 feet. The cost of hoeing amounted to R2,972.

40. *Tapping.*—This was begun on the 18th July 1913 and continued to the end of January 1914. Altogether 30 trees at Namunaghar, planted in 1887, and 550 trees at Goplakabang planted in 1905 were tapped.

On the 29th November 1913 the rubber smoking shed was burnt to the ground and all the smoked rubber was destroyed. The records showed that 626 lbs. of wet rubber had been prepared up to this time.

During December and January the following quantities of latex and wet rubber biscuit were obtained :—

	Weight of latex.		Total.	Yield of wet biscuit.
	Namunaghar (30 trees).	Goplakabang (550 trees).		
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
December	142 8	357 8	500 0	109 5
January	131 8	451 0	582 8	128 4
Total .	274 0	808 8	1,082 8	237 9

The yield of dry smoked rubber was about 160 lbs. which was shipped to London in June to Messrs. Lewis and Peat, the Ceylon Government brokers, to test the market. Up to the present no report has been received.

The latex includes some water added to prevent premature coagulation.

The cost of the tapping amounted to R267 for the year.

41. The grand total of all expenditure on rubber during the year amounted to R13,877 as shown in Form No. 18.

42. *Afzelia and mahogany.*—The area shown in Form No. 18 is reduced to 8 acres as outlying portions have been cleared for planting of Eucalyptus. A clearing out of inferior species was carried out over the 8 acres at a cost of R9-4. The average height and girth of 13 Afzelia were 23 feet and 8 inches : mahogany 25 feet and $10\frac{1}{2}$ inches. Though not the success hoped for, they are not altogether a failure, in view of the indifferent locality chosen.

Cultural Operations.

43. The *padouk* areas 1903 to 1911 with the exception of the 1905 area were cleaned, and paths and boundaries cleared at a cost of R1,073.

The area of 1905 did not require cleaning. The *padouk* has formed an almost complete canopy and is in no danger of being suppressed by inferior species. This is the finest area of all the plantations.

44. The *padouk* area of 100 acres sown broadcast in 1912 was cleaned at a cost of R129.

The neighbouring patch of natural regeneration about 40 acres was cleaned at a cost of R65. This area was seen by the Inspector General of Forests who suggested that all big trees on this area should be felled. This has been done and about 40 acres of high forest surrounding it was cleared and burnt, and this area is now merged in this year's *teak* and *padouk* area.

45. The new area is about 80 acres in extent and adjoins the *teak* and *padouk* area of 1913 mentioned in paragraph 45 of last year's report.

It has been sown with teak, *padouk* and *pyinma* ; the teak being sown direct in rows 24 feet apart and 3 feet apart in the rows, and the *padouk* and pyinma sown broadcast except on steep slopes where *padouk* seed was dibbled to prevent its being washed away by heavy rain.

In spite of the exceptionally heavy rains in 1914 this area is doing well.

46. The teak and *padouk* area of 1913 was weeded twice during the year. The cost of the initial weedings in areas sown broadcast is high as they must be done thoroughly. On the other hand, later weedings should be cheaper as once the *padouk* closes up and gets a start it will keep all weeds in check.

The teak and casuarina area of 1913 was also weeded twice during the year. It is now practically pure teak 12′×6′, and is doing well though the plants are not as tall as in the *padouk* and teak area.

The area of 35 acres on the south coast of Rutland was lightly cleaned in March at a cost of R10 and was visited by the writer. Its condition was satisfactory.

A small area was cleared on Long Island at a cost of R174 to see whether *padouk* sown broadcast would survive under the cover of the larger trees. And a similar area was cleared at Bajalunta on the mainland of the Middle Andaman at a cost of R22 for the same purpose. The results were of a negative character.

A sum of R25 was spent on the collection of seeds of padouk, gurjan, didu, and koko some of which were sent away to the Research Institute and elsewhere.

Lastly a sum of R45 was spent on cleaning old plantations of teak and *padouk* in lines at Manglutan, and in the Ali Musjid Reserve in order to try and save such trees as still survived.

47. The total expenditure on all cultural operations was R4,055, and the grand total of all expenditure on artificial reproduction amounted to R17,441 as shown by Form No. 18.

	R
Rubber	13,377
Afzelia	9
Cultural operations	4,055
Total .	17,441

(*c*) *Operations for the improvement of the growing stock.*

48. For want of staff and labour no cleanings could be carried out in the *padouk* forests. The season for this work is from January to April at which time the Working-plan and Survey were in full swing.

(*d*) *Experiments.*

49. Seed of some 17 species of Eucalyptus was obtained from Australia and sown in July 1913. Many plants were lost when the nursery was flooded, and of 8,000 seedlings obtained the majority died after transplanting to baskets.

The only species which seem likely to do well are *E. tereticornis*, *E. resinifera*, *E. robusta*, and *E. rostrata*. *E. botryoides* and *E. robusta* were said to be suitable for mangrove swamps but were not found to stand salt water. *E. robusta* on higher ground above tide level appears to thrive.

A small number of plants were supplied for planting in the Settlement. Others are being tried on evergreen forest soil to see if they will supply fuel. A further supply of the seed of the more suitable species was obtained towards the end of the year.

50. *Albizzia moluccana*:—The seed sown last year germinated freely and the young plants grew very rapidly, so 10 lbs. of seed were obtained from Ceylon in May 1914, and 6 lbs. were sown in patches 6′×6′ on 30 acres of evergreen forest soil with 700 rubber seedlings interplanted to see how these species will grow in association. There are reasons to believe that it may be advantageous to grow them together on hilly ground.

51. One hundred gurjan trees were girdled on Long Island in June 1914 to see whether sleepers of this species can be seasoned sufficiently to be creosoted by leaving them standing for six months, and felling and letting them lie in the log for another 6 months.

SECTION 5.—EXPLOITATION.

(*a*) SYSTEM OF MANAGEMENT.

(*i*) *Major forest produce.*

52. *Timber.*—Unregulated fellings of *padouk* were carried out during the year in the Middle Andaman, in the areas between the Yol-jig and Boroin-jig creeks: up a tributary of the Boroin west of Porlob Island which extended, through the lack of an accurate map, into the upper part of the Yera-til-jig drainage: up a creek below and west of Palodina: on Havelock and Peel Islands of Ritchie's Archipelago.

Work closed finally in Rutland on the 22nd February 1914 and 11 elephants were rafted over to the South Andaman and sent to Minnie Bay.

Gurjan logs, and some other timbers for the sawmill, were obtained from the late Minnie Bay Reserve which was cleared for planting coconuts, and also from unclassed forest at Mithakhari, and near Shore Point, in Port Blair, which was cleared for the same purpose.

53. *Fuel.*—Except for some firewood cut in the forest camps for the *Rosamond* practically the whole of the firewood extracted departmentally was obtained from the Goplakabang Reserve where 150 acres of high forest were clear-felled. A small quantity was obtained from clearings for the rubber extensions and from large hollow trees which had been left standing in the earlier *padouk* plantations.

Charcoal was made at Rutland until the camp was withdrawn in February 1914 when it was made first at North Point, and later at Shore Point in Port Blair on areas cleared for coconut plantations.

(*ii*) *Minor forest produce.*

54. The local population obtained their supplies within the Settlement and no minor produce was collected from the neighbouring islands.

Canes were cut departmentally for local jail manufacture at Havelock and Long Island.

The bark of mangroves and Terminalia Catappa were collected departmentally for the local tannery from the Goplakabang and Brigade creek reserves.

(*b*) AGENCY OF EXPLOITATION. (*Forms 19 and 20.*)

(*i*) *Departmental Agency.*

55. The greater part of the timber and fuel was extracted by departmental agency as usual.

The percentages of all produce extracted departmentally are as follows:—

Timber	87 per cent. by volume.
Fuel	65 „ „ do.
Minor produce	22 „ „ by value.

This represents a decrease of 1 per cent. in timber, a decrease of 5 per cent. in fuel, and an increase of 7 per cent. in minor produce on the corresponding figures of the previous year.

56. *Major produce.—Timber.*—3,589 tons of rough-hewn *padouk*, and 143 tons of *pyinma* (Lagerstroemia hypoleuca) total 3,732 tons were shipped during the year, *viz.*, tons 1,833 *padouk* against the contracts of 1913, and tons 1,899 *padouk* and pyinma against contracts for 1914.

Tons 1,293 of mill-sawn gurjan were shipped during the year, 942 tons against the 1913 contract, and 351 tons against that of 1914.

57. *Fuel.*—Cords 4,545 were supplied to the Settlement as against cords 7,491 in the previous year. The reduction in quantity was due to the Settlement itself cutting a large quantity of firewood on the areas cleared for extensions of the coconut plantations.

Cords 381 were cut for the Tramway locomotives whilst the steamer *Rosamond* and the launch *Eileen* used 1,237 cords of which 311 cords were supplied at the Forest Camps and 926 cords came from the sawmill wastage at Chatham.

The sawmill furnaces consumed 715 cords of fuel derived from wastage.

Charcoal.—Maunds 3,921 were supplied to the Settlement during the year as against 4,208 maunds in the previous year. One maund represents 8 cubic feet solid of firewood.

58. *Minor produce.*—Canes of three species were supplied to the Cellular Jail for local manufactures whilst bark of mangroves and of *Terminalia Catappa* was supplied to the tannery.

59. *Transport by land.*—A list of elephants is given in Appendix I with details of the number of days worked by them. There were no casualties during the year, among working elephants.

Firewood extracted departmentally in the Wimberleyganj valley is transported by the tramway referred to in paragraph 17 above.

60. *Transport by water.*—The steamer *Rosamond* ran from 1st July 1913 to the 20th March 1914 and again from the 3rd April to the end of the year. During this interval she went to Rangoon for scraping and painting below the water line. Details of this and of local repairs are given in Chapter V.

She brought in 10,628 tons of timber as against 8,502 tons in the previous year.

The launch *Eileen* towed rafts or boats with 585 tons.

Altogether 11,213 tons of timber were brought into Port Blair depôt during the year.

New Jetty.—The jetty at Chatham where *padouk* squares are discharged from the *Rosamond* was completed. Materials to the value of R25 were supplied from stock whilst labour and local materials cost R122 debited to departmental extraction.

61. *Depôts.*—The site of felling is technically a forest depôt, but as depôts of this kind cannot be checked owing to their being scattered all over the forest no account is taken in the returns for any but coast or shipment depôts where logs are collected for transport by the *Rosamond* to Port Blair depôt.

62. *Revenue.*—The total revenue of the year from produce extracted by departmental agency was R3,98,104. Details are given in Form No. 24.

(*ii*) *Purchasers.*

63. *Major produce.*—The revenue from timber sold standing to purchasers was R6,779 as against R5,357 in the previous year.

The revenue from fuel cut by purchasers at four annas per cart load was R122 against R136 in the previous year.

Bamboos brought in R36 against R49 in the previous year.

Minor produce yielded R290 against R348 in the previous year.

The total revenue of all forest produce removed by the purchasers themselves was R7,227 as against R5,890 in the previous year.

(*iii*) *Rights and privileges.*

64. There are no rights. The estimated value of produce removed by the District Officers, or by privileged villagers was R14,086 against R11,894 in the previous year owing to an increase in the number of houses and the cutting of more firewood by District Officers.

(*iv*) *Free Grants.*

65. Officers of the Settlement cut and utilised fuel free of charge: for the Tea Gardens 256 cords and for other stations 1,296 cords total 1,552 against 734 in the previous year.

Free grants of sawn timber 1,479 c. ft. valued at R2,348 were made for the new club buildings.

Free grants of timber as samples were made to—

				R
Principal Civil Engineering College, Sibpur,	9	c. ft.	valued at	8
Shamji Bhutt, Bombay	40	„	„	33
East Asiatic Co. Ld., London	2	„	„	2
Forest Economist, Debra Dun	12	„	„	12
Forest Research Institute and College for a table, best colour padouk	88	„	„	132

66. The following table shows the quantity and value of all forest produce removed free of charge from the forests by District Officers and villagers :—

—	Timber.		Fuel.		Bamboos.		Other minor produce.	Total,
	c. ft.	Value.	c. ft.	Value.	No.	Value.	Value.	Value.
		R		R		R	R	R
Right holders	...	...	...	...	...	...	...	...
Free grantees	64,682	1,294	3,63,200	9,080	6,75,017	421	3,291	14,086
Grants at reduced rates	...	...	...	...	...	...	...	...
Total	64,682	1,294	3,63,200	9,080	6,75,017	421	3,291	14,086

(c) OUTTURN AND SOURCES OF FOREST PRODUCE.

(Forms Nos. 19 and 20.)

67. The following table compares the outturn of the year classified according to the agency of exploitation and the kind of produce extracted with the figures of 1912-13 :—

—		Timber.	Fuel.	Bamboos.	Minor produce.
		c. ft.	c. ft.	No.	R
Government Agency	1913-14	6,12,667	7,24,464	60,473	1,079
	1912-13	6,52,249	9,50,077	21,553	576
Purchasers	1913-14	30,622	25,920	57,600	290
	1912-13	35,961	65,440	79,100	348
Free Grantees	1913-14	29,880	2,39,040	3,98,400	2,540
	1912-13	29,625	2,37,000	3,95,000	2,518
District Officers	1913-14	34,802	1,24,160	2,76,617	751
	1912-13	22,607	76,720	2,48,580	84
Total	1913-14	7,07,971	11,13,584	7,93,090	4,660
	1912-13	7,40,442	15,29,237	7,44,233	3,526

The decrease in the outturn of timber extracted by departmental agency was due to no hollow logs being extracted, but only squares for export and just sufficient timber to meet current local requirements.

The decrease in the fuel removed by departmental agency was due to the fact that the Settlement obtained a considerable portion of its fuel from clearings made for planting coconuts.

The increase in bamboos and minor produce was due to greater demand by the Settlement. The Forest Department only supplies what is indented for.

With regard to produce extracted by purchasers the decrease was due to less demand by the residents. The great decrease in fuel is due to a cart load being taken as 50 cubic feet against 100 cubic feet in previous years. Even this is too high.

The increase in the produce removed by the free grantees is due to there being more houses than in the previous year, a factor per house being applied to arrive at the figures.

The quantities of timber, fuel, bamboos and minor produce removed by the District Officers are greater than last year as the District Officers cleared considerable areas for planting coconuts.

68. The following table shows the timber in the round supplied to the Chatham sawmill and the outturn obtained :—

Year.	Timber sent to sawmill.		Timber received from sawmill.	Percentage of loss in conversion.
	Number of logs.	Volume.		
			c. ft.	
1913-14 . . .	6,656	3,53,104	1,53,267	56
1912-13 . . .	5,667	2,85,465	1,31,963	54

The high wastage is partly due to the fact that the very few shingles were cut and wood fit for shingles could only be converted into fuel.

69. The total expenditure on the management of State forests during the year was R1,86,267.

CHAPTER III.—FINANCIAL RESULTS. (*Forms 21, 22, 23, 24, 25, 26, 27.*)

70. The income and expenditure of the year are compared with those of the previous year and with the average of the preceding five years in the following statement :—

—	1913-14.	1912-13.	Average 1907-1912.
	R	R	R
Revenue	4,08,120	4,74,115	3,33,279
Expenditure { A	2,07,364	2,03,579	1,75,391
Expenditure { B	65,319	60,885	41,773
Total expenditure	2,72,683	2,64,464	2,17,164
Surplus . . .	1,35,437	2,09,651	1,16,115

The increase in expenditure A was due to the survey and plantation work and in expenditure B to there being an additional Provincial Officer for part of the year on account of the Working-plan.

The prescribed analysis shows that 97·55 per cent. of receipts came from major produce and 1·77 per cent. from minor produce whilst revenue from miscellaneous sources was 0·68.

Of the expenditure only 17·11 per cent. was incurred on the constitution and improvement of the forests, whilst 58·94 per cent. was incurred in connection with the exploitation of the forests and 23·95 per cent. on the administration and protection of the forests.

The percentage of net income was 33 per cent. against 45 per cent. in the previous year and was due to the decline in revenue, whilst on the other hand considerable extraordinary expenditure was incurred on the Survey and Working-plan.

The outstandings of revenue at the end of the year amounted to R99,385 against R79,705 in the previous year. This is due to approved firms being granted the privilege of paying for timber at 90 days sight of shipping documents.

71. The balance of timber in stock in Port Blair depôt at the close of the year amounted to 83,395 c.ft. against 179,799 cubic feet in the previous year.

The logs sent to the sawmill are included in the disposals in form No. 21. The stock of sawn timber on hand at 30th June 1914 was 32,790 c.ft. against 18,038 c.ft. in the previous year.

The balance of firewood in stock at the sale depôt at the close of the year was 64,128 c.ft. against 73,140 c.ft. at the close of the previous year.

The estimated value of timber and other produce stored at sale depôts was R1,07,158 or R53,683 less than at the commencement of the year.

72. The value of live and dead stock amounted to R28,859 against the year.

One elephant calf was born during the year, and two elephants let loose in the previous year were written off, one of which, "Rani," died.

There are now 43 elephants on the books, including 2 calves.

Two buffaloes died during the year and one was written off as unfit for further work. There are now 7 buffaloes on the books.

73. The outstandings due to the Forest Department by contractors and disbursers representing advances recoverable amounted to R42-11-6 at the commencement and R117-4-5 at the close of the year, or R74-8-11 against the year.

CHAPTER IV.—ADMINISTRATION.

74. *Inspection.*—Mr. G. S. Hart, C.I.E., Inspector General of Forests, made a tour of inspection from the 24th November to the 7th December 1913 which is fully described in the Inspection Note dated the 23rd December 1913.

75. The writer was in charge of the Division throughout the year except for the period from the 13th September to the 13th October when he was on privilege leave, followed by convict escort duty from the 14th to 17th October 1913.

76. Mr. B. P. Kelly, now Extra Deputy Conservator of Forests, was in charge of the rubber plantation up to the 27th December 1913, when he returned to Burma, except for the period 13th September to 17th October when he was in charge of the Division.

77. Mr. M. C. C. Bonig was in charge of the Working-plan operations throughout the year and compiled the Working-plan report. He also gave valuable assistance with extraction, the inspection of the forest camps, and the treatment of sick elephants.

He was promoted to Extra Deputy Conservator on 1st May 1914.

78. Mr. A. R. Brown, Extra Assistant Conservator of Forests, was in charge of the Wimberleyganj Sub-division throughout the year, including the rubber plantation from the 28th December 1913.

He deserves credit for his good work, especially on the tramway and the rubber plantation.

79. Mr. W. H. Miller, Extra Assistant Conservator of Forests, was in charge of Forest Camps from 1st July to 1st August; and again from the 13th November to the 31st December.

He was in charge of the Chatham Sub-division from the 1st January 1914 to the end of the year. Amongst other duties he measured and passed all timber for export, and supervised the shipments.

At this kind of work he did much better than in the forest camps and his work while at head-quarters showed considerable improvement.

He was on privilege leave from the 2nd August to the 12th November 1913.

80. Mr. Parkinson, Probationary Extra Assistant Conservator of Forests, was attached to the Working-plan party during the field season, at the close of which he prepared most of the Working-plan maps. He was granted privilege leave from the 17th July 1913 but was recalled to reobserve some angles on the survey traverses which a surveyor had not closed correctly.

He collected a number of botanical specimens during the field season and was deputed to the Forest Research Institute to compile a descriptive list of Andamans forest trees after the close of the year. He was promoted to be Extra Assistant Conservator of Forests from the 1st July 1914.

81. Mr. C. Alfred, Forest Ranger, was promoted to the 2nd grade from the 1st July 1913. He continued to do good work. He was attached to the Working plan party during the field season and was commended by the Working-plan Officer for his good work. He is recommended for promotion to the Provincial Service.

Mr. H. Robertson, probationary Ranger, was deputed to the 1913-15 Provincial Service class at the Forest College where, however, he has not come up to expectations. He has been warned.

Mr. Smart, probationary Ranger, did good work checking enumerations for the Working-plan, but as he was not up to the standard required for the Provincial Service class his services were dispensed with.

Mr. R. P. Mullins, Sawmill Foreman, was transferred to the local Marine Dockyard as Foreman Engineer with effect from 24th December 1913. The question of getting a Sawmill Engineer was pending at the end of the year.

82. One Deputy Ranger and one Forester were transferred to the Office establishment, and one Forester resigned: whilst one Deputy Ranger and four Foresters were appointed to fill vacancies.

The Driver of the steamer *Rosamond* resigned and a new man was obtained from Bombay. It is desirable to have only Bombay men on this vessel.

83. The Office establishment was brought up to full strength during the year, and on the whole their work was satisfactory. The Head Clerk, Mr. C. Viziarangam Mudaliar, worked hard, and often out of regular hours.

The Accountant, Babu Durga Singh, keeps the accounts in good order, and the fourth clerk S. Manivannan is a trained typist, and can write short-hand at fair speed.

CHAPTER V.—GENERAL.

84. *Saw Mills.*—The Chatham saw mill produced 2,964 tons of sawn timber as against 2,629 tons in the previous year. The opening balance was 360 tons. The disposals were as follows:—

	Tons.
Public Works Department	599
Settlement	119
Exported	1,519
Used Departmentally	244
Miscellaneous sales	78
Loss in re-conversion	14
Deduct for shingles now shown by number	88
Found short on taking stock and written off	8
	2,669
By stock	3,364
Balance on 30th June	695

The number of shingles on hand at the close of the year was 199,380, the equivalent of 68 tons.

85. The cost of operating the saw mill was as follows:—

	₹
Salaries of Foreman (part of year) and Clerk	1,809
Temporary establishment (Driver and Tindal)	769
Labour	15,932
Stores purchased	7,271
„ issued from stock, valued at	904
Repairs by local workshops	682
Purchase of water in dry season	128
	27,495

thus the cost rate for 2,964 tons was about ₹9-4 per ton.

The saw mill consumed 715 cords of firewood from wastage. Boiler furnaces of special design to burn sawdust will be built in order to save the firewood for sale to the Settlement.

The saw mill was closed for general repairs for about 6 weeks during May and June.

86. After further consideration Government sanctioned the provision of a new saw mill at Chatham, and a design and plans were obtained from an expert.

It was further proposed to have a special sleeper mill and plant for creosoting sleepers, and these matters are for investigation by the Forest Engineer.

87. *Marine.*—The steamer *Rosamond* was sent to Rangoon on the 22nd March and returned on the 2nd April 1914. She was scraped and painted below the water-line at a total cost of ₹4,788, including ₹1,960 for navigating charges.

She was overhauled at the local Dockyard between the 25th May and 6th June at a cost of ₹955, and stores were issued to the value of ₹1,301. The total cost of local repairs was thus ₹2,256; and the work was extensive, and expeditiously done, for which the Department is much indebted to the Engineer and Harbour Master, Mr. W. W. Collins, R.I.M., as it is established that all ordinary overhaul can be done locally and the vessel need only be sent away for 10 or 12 days annually to Rangoon for work below the water-line, and perhaps once in five years to Kidderpore for refit.

88. In addition to the total expenditure of ₹7,044 at Rangoon and Port Blair for 1913-14, adjustment was made during the year of ₹17,562, which included ₹4,257 for electric plant, charged by the Royal Indian Marine Dockyard at Kidderpore for the overhaul carried out there in 1912-13. This is exclusive of navigating charges.

89. Stores and gear such as wire rope and timber slings cost ₹1,682. The salaries of the free crew amounted to ₹6,091: labour cost ₹2,395: running stores ₹3,816: water ₹1,108: total running cost ₹13,410.

The cost of firewood 1,004 cords consumed throughout the year was ₹1,004. Coal purchased in 1913 for the voyage from Calcutta and in 1914 at Rangoon cost ₹4,933. Of this, some was consumed on the way and the rest stored at Port Blair, where it is issued to the two steam-cutters, but is only used by the *Rosamond* in case of emergency for which purpose 10 tons are always kept on board.

90. The launch *Eileen* was repaired during the year at a cost of ₹849. Her running cost was ₹2,399: establishment ₹1,146: convict crew ₹592: running stores ₹661. The cost of firewood consumed was ₹233.

Her hull and boiler were surveyed on separate occasions at a cost of ₹64. The boiler is to be replaced and the hull to undergo complete overhaul in the local dockyard.

91. The steam-cutter *May* cost R313 for repairs, including stores issued to the value of R207.

Her running cost was R387 : convict crew R187 and stores R200.

The steam cutter *Dorothy* cost R120 for repairs ; whilst the crew cost R155, and running stores R197.

Every assistance was given by the Engineer and Harbour Master, Mr. W. W. Collins, Engineer, R.I.M., to whom this acknowledgment is due for prompt attention to any vessel sent to the local Marine yard for repairs. This was a very welcome change from the practice of former years.

92. *Lighters and Boats.*—These were for the most part repaired departmentally. The total cost amounted to R2,130, labour R1,255 and materials exclusive of timber R875.

The cost of a life-boat for the *Rosamond* built by the Kidderpore Dockyard in the previous year R1,247 was adjusted during the year as well as a sum of R33 being the balance of their charges on 3 Bengal dinghies supplied in the previous year.

J. L. BAKER,
Deputy Conservator of Forests,
Andamans.

DATED PORT BLAIR ;
The 2nd December 1914.

Form No. 7. (*Paragraphs 1 to 4.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Area of Reserved Forests, Protected Forests, Unclassed or Public Forest Land, and Leased Forests 1913-14.

Division.	Range.	Civil District or Territory.	Name of Forest.	Area on 1st July 1913.		Added during the year.	Excluded or transferred to other heads.	Area on 30th June 1914.		Number and date of Notification of addition or transfer, etc.	Remarks.
				Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
1	2	3	4	5	6	7	8	9	10	11	12
							Reserved Forests.				
Andamans.		South Andaman Island (total area of main land 474 square miles).	1. Middle Straits	23,411	36·58	...	23,411	...	...	Chief Commissioner's Notification No 6 of 18th June 1914.	In the Jarawa country.
			2. Port Meadows	12,160	19·00	...	12,160	...	...		
			3. Shoal Bay	9,728	15·20	...	9,728	...	...		
			4. Mount Harriett	25,600	40·00	...	...	25,600	40·00		Note.
			5. Hope Town	415	0·65	...	...	415	0·65		The Indian Forest Act is not in force in the Andamans.
			6. Goplakabang	2,085	3·26	...	...	2,085	3·26		
			7. Brigade Creek	2,344	3·66	...	...	2,344	3·66		These forests have simply been declared 'Reserved forests' by executive order.
			8. Namunagbar	1,275	2·00	...	...	1,275	(*a*) 1·99		
			9. Minnie Bay	231	0·36	...	231	...	...	Chief Commissioner's Notification No. 11 of 3rd December 1913.	
			10. Dhani Khari	8,031	12·57	...	...	8,031	(*a*) 12·55		Planted with coconuts.
			11. Ali Musjid	14,916	23·00	...	...	14,916	(*a*) 23·30		(*a*) Corrected figures.
				100,196	156	...	45,530	54,666	85·41		
							Unclassed Forests.				
		Andaman Islands.	1. South Andaman	177,661	277·59	(*b*) 45,530	594 (*c*) 2,433 (*d*)	220,164	344·01		(*b*) Transferred from Reserved forests.
			2. Middle Andaman	377,216	589·40	...	...	365,311	570·80		(*c*) Transferred to the Settlement.
			3. North Andaman	353,485	552·32	...	...	317,184	495·60		
			4. Baratang group	75,904	118·60	...	...	78,234	122·24		
			5. Ritchie's Archipelago.	61,133	95·52	...	...	63,874	99·80		(*d*) Reduction due to recalculation of the area of the South Andaman Island.
			6. Rutland	30,490	47·64	...	...	30,925	48·32		
			7. The Laybrinth Islands.	6,797	10·62	...	...	6,886	10·76		(*e*) Difference due to recalculation of areas by Forest Map Office.
			8. North Sentinel	14,618	22·84	...	...	14,822	23·16		
			9. South Sentinel	538	·84	...	...	358	0·56		
			10. Little Andaman	191,718	299·56	...	...	190,771	298·08		Area of Settlement is nearly 45 square miles.
			11. Other Islands	...	...	...	...	70,510	110·17		
				1,289,560	2,015	45,530	3,027	1,359,039	(*e*) 2,123·50		Total area of Andaman islands 2,254 square miles.
			Grand total	...	2,171	...	...	...	(*e*) 2,208·91		

Form No. 8. (*Paragraph 5.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Statement showing the Progress made in, and the Expenditure incurred on, Forest Settlements during 1913-14.

Name of Forest Division.	Name of Civil District or Territory.	Area already settled at commencement of the year.	AREAS FINALLY SETTLED DURING THE YEAR.						AREAS UNDERGOING SETTLEMENT.						Remarks.
			Number and date of Government order according final sanction to the Settlement	Name of Forest settled.	Area in square miles.	Expenditure incurred during the year on areas finally settled.		Entire cost per square mile of area finally settled during the year.	At commencement of the year.		Taken in hand during the year.		Expenditure incurred during the year on areas undergoing Settlement.		
						In Forest accounts.	In other accounts.		Name of tract	Area in square miles.	Name of tract.	Area in square miles.	In Forest accounts.	In other accounts.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		Sq. Ms.				R	R	R					R	R	
Andamans.	South Andamans Settlement.	85													71 square miles in the Jarawa country disforested and 231 acres in the settlement.

Form

FOREST DEPARTMENT,

Record of Demarcation and Maintenance

DIVISION.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at close of the year.	Length of boundaries still to be demarcated at close of the year.
1	2	3	4	5	6
	Miles.	Miles.	Miles.	Miles.	Miles.
Andamans	...	...	50	50	...

N.B.—Boundaries include, besides the outer perimeter, the limits of enclosures of private or other

Form

Statement of Forest areas surveyed and under

DIVISION.	AREA SURVEYED AND UNDER SURVEY DURING											
	SPECIAL SURVEYS—MAPS ON 2-INCH SCALE OR OVER, BY SURVEY OF INDIA DEPARTMENT.						ORDINARY, INCLUDED IN TOPOGRAPHICAL PROGRAMME OF THE SURVEY OF INDIA OR IN DISTRICT SURVEYS.					
	WITH INTERIOR DETAILS.			BOUNDARY SURVEYS.			WITH INTERIOR DETAILS.			BOUNDARY SURVEYS.		
	Previous.	Of year.	Total Cost.	Previous.	Of year.	Total Cost.	Previous.	Of year.	Total Cost.	Previous.	Of year.	Total Cost.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Sq. Ms	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms	R
												Unclassed
Andamans		30 (a)										

Form

Progress made in

DIVISION.	AREAS FOR WHICH WORKING-PLANS HAVE BEEN SANCTIONED BY LOCAL GOVERNMENT.		AREAS FOR WHICH WORKING-PLANS ARE BEING COMPILED.	
	At commencement of year.	During year.	At commencement of year.	Taking in hand during year.
1	2	3	4	5
	Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.
				Reserved
	...	...	...	...
Andamans				*Unclassed State*
	317 (b)	...	...	391

No. 9. (*Paragraph 6.*)

INDIA, ANDAMANS.

of Boundaries, 1913-14.

Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year.		Remarks.
		On new work.	On repairs.	
7	8	9	10	11
Miles.	Miles.	Rs.	Rs.	
86	136	...	...	Length reduced owing to exclusion of 4 Blocks reserved forest *vide* Form No. 7.

lands within the forests, but not the limits of sub-divisions, such as compartments and coupes.

No. 10. (*Paragraphs 7 to 9.*)

survey during the year 1913-14.

The year 1913-1914.													
Chain and compass or other surveys by local officers.								Areas remaining to be taken under Survey.	Total Forest area at end of the year, as per Form No. 7.	Cost.			Remarks.
With interior details.					Boundary surveys.					Previous.	Of year.	Entire cost of all surveys at end of the year.	
4-inch or over.		Under 4-inch.		Total Cost.	Previous.	Of year.	Total Cost.						
Previous.	Of year.	Previous.	Of year.										
14	15	16	17	18	19	20	21	22	23	24	25	26	27
Sq. Ms.	Sq. Ms.	Sq. Ms.	Sq. Ms.	R	Sq. Ms.	Sq. Ms.	R	Sq. Ms	Sq. Ms.	R	R	R	
State Forests.													
								726 (*b*)	2,170	12,404	21,097	33,501	(*a*) In the middle Andaman. (*b*) The whole of the Islands were surveyed on ¼ inch=1 mile scale and 156 square miles in the South Andaman on the 4-inches=1 mile scale in 1884–86. Forest survey on 2-inches scale now required for North Andaman 496 square miles, and 230 square miles in the Middle Andaman and Baratang(latter now sanctioned).

No. 11. (*Paragraphs 11 to 14.*)

Working-Plans, 1913-14.

Areas for which Working-Plans have still to be taken in hand.	Areas for which Working-Plans are not at present required.	Total Forest area, as in Form No. 7.	Entire cost per square mile of Working Plans completed.	Remarks.
6	7	8	9	10
Sq. Ms.	Sq. Ms.	Sq. Ms.	R	
Forests.				
85 (*a*)	...	85 (*a*)	...	(*a*) Parts of these reserves are included in the Departmental felling series. No special treatment required for remainder.
Forests.				
...	1,501	2,209	R72 4 0	(*b*) North Andaman Working-Plan revised and incorporated in General Working plan. Total area 708 square miles. Working-plan completed in August 1914.

Form No. 12.

(Paragraphs 17 to 26.)

FOREST DEPARTMENT INDIA, ANDAMANS.

Communications and Buildings 1913-14.

Division.	NEW WORK UNDERTAKEN DURING THE YEAR.							REPAIRS EXECUTED DURING THE YEAR.							Remarks.
	Buildings.		Roads and paths.			Other works.		Buildings.		Roads and path.			Other works.		
	Description of building.	Expenditure incurred.	Description of road or path.	Length of road or path.	Expenditure incurred.	Expenditure incurred.	Total expended on new work.	Description of building.	Expenditure incurred.	Description of road or path.	Length repaired.	Expenditure incurred.	Expenditure incurred.	Total expended on repairs.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		R		Miles.	R	R	R		R		Miles.	R	R	R	
Andamans.	Rest house at Long Island	18						Head-quarter houses.	476						
	Boat house at Chatham	26						Barracks at Wimberleyganj	29	Steam Tram line	6	1,407	1		
	House for Subordinate Establishment	14						Others	166						
		58					58		671			1,407	1	2,079	

Form No. 13.

(Paragraph 27.)

Register of breaches of Forest Rules during 1913-14.

Forest Division.	Cases pending from previous year.	New Cases of the Year.					Total Cases.	Disposed of during the year.						Cases pending at close of year.
		Injury to forest by fire.	Unauthorised felling or appropriation of wood and minor forest produce.	Grazing without permission, or in tracts in which grazing is prohibited.	Other offences.	Total new Cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons	Cases.	Persons.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Andamans	...	...	10	...	...	10	10	6	11	4	5	10	13	
Grand total A.														
Grand total B.														
Grand total C.														

N.B.—A means cases taken into Court.
B means cases disposed of under section 67 of Indian Forest Act, 1878.
C means undetected cases.

Form No. 16.

(Paragraph 29.)

Area closed and open to Grazing during 1913-14.

Division.	Area in square miles.						Remarks.
	Closed to all animals.		Closed to browsers (camels, goats or sheep).		Open to all animals.	Total area.	
	Whole year.	Part of year.	Whole year.	Part of year.	Whole year.		
1	2	3	4	5	6	7	8
			Reserved Forests.				
Andamans	85	...	...	...	...	85	
			Unclassed Forests.				
	...	...	...	...	344(a)	...	(a) Area of unclassed forests in South Andaman Settlement. No grazing or fodder grasses available.

Form No. 18. (*Paragraphs 32 to 47.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Artificial reproduction for the Forest year 1913-14.

Division.	Kind of Plantation.	Area in acres.				Expenditure during the year.		Total expenditure from commencement.		Revenue during the year	Total revenue from date of creation of plantation.	Remarks.
		On 1st July 1913	Added during the year.	Excluded during the year.	Area on 30th June 1914	Creation.	Upkeep.	Creation.	Upkeep.			
1	2	3	4	5	6	7	8	9	10	11	12	13
						Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
	Regular.											
Andamans.	Padouk (Goplakabang) 1883	4	...	...	4	...	9	Not Known		...	...	
	„ „ 1884	5	...	...	5	...	...	Do		...	...	
	„ „ 1885	16	...	...	16	...	...	Do		...	...	
	„ „ 1886	20	...	...	20	...	...	Do		...	...	
	Teak „ 1887	16	...	...	16	...	...	558	...	...	...	
	„ „ 1889	22	...	..	22	...	...	1,177	Not Known	...	...	
	„ „ 1890	45	...	...	45	...	...	1,096	„	...	...	
	Mangrove (Namunaghar) .	442	...	...	442	...	...	Not Known		...	...	
	„ (Dhani Khari) .	243	...	...	243	...	...	Do		...	...	
	Para rubber (Namunaghar) .	1/10	...	...	1/10	...	...	18	105	...	...	
	„ (Goplakabang)	137	90	35½	1,91½	...	...	13,406	9,688	...	...	
	Afzelia and Mahogany „	12	...	4	8	...	...	9	197	...	...	
	Eucalyptus	...	5	...	5	...	..	302	...	...	...	
	Total regular plantations .	962 1/10	95	39½	1,018 1/10	9,883	3,814					
	Cultural Operations											
	Padouk areas 1903 to 1911 .	1,300	...	...	1,300	...	1,073	...	2159	...	...	
	Partial clearing (Goplakabang Reserve	40	...	40	...	...	65	80	621	...	...	
	Clear felled broad cast (Goplakabang Reserve sowing) .	100	...	...	100	...	129	138		...	...	
	Rutland partial clearing with sowing	35	...	...	35	...	10	167	48	...	...	
	Teak and Padouk (Goplakabang)	33½	...	...	33½	108	363	559	378	...	...	
	Teak with exotics („)	52	...	...	52	15	297	460	297	...	...	
	Teak and Padouk 1914 .	...	80	...	80	1,365	...	1365	...	...	...	
	Albizzia molucanna 1914 .	...	30	...	380	36	...	36	...	...	...	
	„ „ and Eucalyptus	...	15	...	15	17	...	17	...	...	...	
	Cultural operation Long Island	...	10	...	10	174	...	174	...	...	...	
	„ „ Bajalunta .	...	5	...	5	22	...	22	...	...	...	
	Clearing line plantations of 1891, etc.	...	...	...	...	...	45	Not known		...	...	
	Collection of seeds, various .	...	...	...	...	...	25	...	...	...	...	
	Total cultural operations .	1,5 60	140	40	1,660½	1,737	2,007					
						17,441						

Note.—Upkeep includes cleanings, weedings, thinnings, filling up blanks, etc. Cultural operations are defined in the memorandum appended to Circular No. 10-F., dated the 5th August 1904.

Form

FOREST DEPARTMENT,

Outturn (in cubic feet, solid) of Timber and Fuel

Division.	Timber in the rough, logs.					Timber in the rough, poles.					Sawn or square timber.				
	Government.	Purchasers.	Free Grantees.	District Officers.	Total.	Government.	Purchasers.	Free Grantees.	District Officers.	Total.	Government.	Purchasers.	Free Grantees.	District Officers.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.
I.—Reserved															
Andamans	.....	.....	.....	.....	.....	4,640	140	(a) 14,940	16,574	36,294	.....	.....	.....	.....	.....
II.—Protected															
	Nil.														
III.—Unclassed State															
	486,285	.....	.....	.....	486,285	7,341	151	(a) 14,940	18,228	40,660	(c) 114,401	30,331	.....	.....	144,732
IV.—Leased															
	Nil.														
GRAND TOTAL .	486,285	.....	.....	.....	486,285	11,981	291	29,880	34,802	76,954	114,401	30,331	.....	.....	144,732

No. 19. *(Paragraphs 55 to 67.)*

INDIA, ANDAMANS.

during the year 1913-14 and Agency of Exploitation.

Miscellaneous.					Total Timber.					Fuel.					Total Outturn.	Remarks.
Government.	Purchasers.	Free Grantees.	District Officers.	Total.	Government.	Purchasers.	Free Grantees.	District Officers.	Total.	Government.	Purchasers.	Free Grantees.	District Officers.	Total.		
(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)
c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	c. ft.	(a) An estimate based on number of Free Grantees huts. 10 bullies=5 c. ft. 2 posts =10 " are allowed for each house.
Forests.																(b) There are 1992 house holders and quantity of fuel removed per house is estimated at 1½ cord. One Cord=88 c. ft. solid.
.....	.....	.....	.....	.....	4,640	140	(a) 14,940	16,574	36,294	(d) 380,576	2,320	(b) 119,520	38,800	550,216	586,510	
Forests.																
Forests.																
.....	.....	.....	.....	.....	608,627	30,482	14,940	18,228	671,677	(d) 334,888	23,600	(b) 119,520	85,260	563,368	1,235,045	(c) Logs squared with axe.
Forests.																(d) Including charcoal 1 md.=8 c.ft. solid. Fuel 1 Cord=88 c. ft. solid.
.....	.....	.....	.....	.....	612,667	30,622	29,880	34,802	707,971	724,464	25,920	239,040	124,160	1,113,584	1,821,555	

Form No. 20. (*Paragraphs 55 to 67.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Outturn of Minor Forest Produce during the year 1913-14.

Description.	PRODUCE REMOVED OR UTILIZED.										Remarks.
	By Government Agency.		By Purchasers.		By Free Grants.		By Right-holders.		Total.		
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		R		R		R		R		R	
	I.—Reserved Forests.										
Bamboos . . No.	25,700	16	48,900	31	199,200	124	42,262	26	316,062	197	The columns 6 and 7 are estimates based upon the following data—
Canes . . „	...	...	4,575	3	39,840	25	1,619	1	46,034	29	1992 Self supporters and free residents houses each of which is allowed —
Thatching leaves . Bdl.	...	...	3,321	207	19,920	1,245	10,490	656	33,731	2,108	200 Bamboos.
Bark . . . lbs.	31,560	222	...	...	...	...	...	...	31,560	222	40 Canes. 20 Bundles Thatching leaves annually.
Total .	...	238	...	241	...	1,394	...	683	...	2,556	All other figures are actuals.
	II.—Protected Forests.										
	Nil										
	III.—Unclassed State Forests.										
Bamboos . . No.	34,756	22	8,700	5	199,200	125	234,355	146	477,011	298	
„ solid . „	17	2	...	...	...	...	...	...	17	2	
Canes . . „	361,635	226	1,600	1	39,840	25	9,845	6	412,920	258	
„ stick . . „	332	41	...	...	...	...	...	...	332	41	
Thatching leaves . Bdle.	185	11	1,225	77	19,920	1,245	1,410	88	22,740	1,421	
Bark . . . lbs.	82,340	579	...	...	...	...	...	...	82,340	579	
Pan leaves . Cooly load	...	...	27	2	...	...	...	...	27	2	
Total .	...	881	...	85	...	1,395	...	240	...	2,601	
	IV.—Leased Forests.										
Total .	...	...	...	...	...	...	...	...	...	...	
GRAND TOTAL .	...	1,119	...	326	...	2,789	...	923	...	5,157	

In the "Remarks" column of this form it should be shown which of the figures entered in it are *actuals* and which are only *estimates*, it being also noted in the latter case how the figures have been arrived at.

Form No. 21. (*Paragraphs 70 and 71.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Account of Timber and other Produce cut or collected by Government Agency and brought to Depôts, sold locally, or otherwise disposed of, during the year 1913-14.

Name of Division.	Balance at commencement of the year in forests and sale depôts.	Received during the year.	Total.	Disposal of during the year.	Balance in hand at close of the year in forests and sale depôts.
1	2	3	4	5	6
		TIMBER—(cubic feet).			
		Padouk.			
	86,197	311,439	397,636	361,967	35,669
		Koko.			
	1,271	5,694	6,965	5,812	1,153
		Black Chuglam.			
Andamans	3,361	4,241	7,602	6,290	1,312
		Marblewood.			
	430	127	557	396	161
		Pyinma.			
	12,376	45,125	57,501	53,944	3,557
		Other timber.			
	76,164	210,181	286,345	244,802	41,543
Total timber	179,799	576,807	756,606	673,211	83,395
		Fuel (cubic feet solid).			
	73,740	727,446	801,186	737,058	64,128
		Minor produce (value).			
	₹	₹	₹	₹	₹
	272	7,031	7,303	6,878	425

Form No. 22. (*Paragraphs 70 and 71.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Abstract showing the Value of Timber and other Produce at sale Depôts for the year 1913-14.

Description of Timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.		Remarks.
	No.	C. ft.	Value.	No.	C. ft.	Value.	In favour of the year.	Against the year.	
1	2	3	4	5	6	7	8	9	10
			R			R	R	R	
Timber.									
Logs . . .	3,945	179,799	1,33,964	3,113	83,395	57,343	...	76,621	
Scantlings . . .	...	18,723	23,453	...	36,169	46,710	23,257	...	
Total .	3,945	198,522	1,57,417	3,113	119,564	1,04,053	23,257	76,621	
Fuel.									
Firewood c. ft. solid .	...	71,544	3,252	...	58,300	2,650	...	602	1 cord = 86 c. ft.
Charcoal „ „ .	...	2,196	172	...	5,828	455	283	...	1 md. = 8 c. ft. solid.
Total .	...	73,740	3,424	...	64,128	3,105	283	602	
Grand Total .	...	...	1,60,841	...	...	1,07,158	23,450	77,223	

Net difference against the year R53,683.

Form No. 23. (*Paragraph 72.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Abstract showing the Value of Live and Dead Stock for the year 1913-14.

Description of Live and Dead Stock.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	No.	Value.	No.	Value.	In favour of the year.	Against the year.	
1	2	3	4	5	6	7	8
		R		R	R	R	
Live Stock.							
Elephants	44	58,096	41	49,390	...	8,706	Depreciation 10 per cent.
„ calves			2	375	375	...	One calf added.
Buffaloes	10	518	7	326	...	192	Depreciation 10 per cent.
Total	54	58,614	50	50,091	375	8,898	
Dead Stock.							
Steam vessels.							
Steam vessel "Rosamond"	1	1,25,712	1	1,23,684	...	2,028	Depreciation 5 per cent. and cost of electric plant added.
„ Launch "Eileen"	1	7,075	1	6,722	...	353	Depreciation 5 per cent.
„ Cutter "May"	1	4,050	1	3,848	...	202	„ 5 „
„ „ "Dorothy"	1	2,359	1	2,241	...	118	„ 5 „
Oil Motor "Ruby"	1	280	1	266	...	14	„ 5 „
Boats and Lighters.							
Lighters	2	1,306	2	1,241	...	65	„ 5 „
Boats, timber towing	20	9,120	18	7,798	...	1,322	„ 5 „ one lost at sea and one converted into water boat.
„ house	2	1,847	2	1,755	...	92	Depreciation 5 per cent.
„ sailing, "Sunbeam"	1	304	...	...	...	304	Exchanged for a rowing boat.
„ Officers, rowing	2	460	2	437	...	23	Depreciation 5 per cent.
„ Jolly	4	824	4	783	...	41	„ 5 „
„ Rowing 10 Oars	...	...	1	304	304	...	Received in exchange for 'Sunbeam.'
„ life	...	...	1	1,248	1,248	...	Purchased from Royal Indian Marine Dockyard.
„ water	...	...	1	706	706	...	Timber boat valued R456 converted and Tank purchased for R250.
Dinghies, Bengal	7	730	6	373	...	357	Depreciation 5 per cent. one lost at sea. Remainder re-valued.
„ Burmese	...	...	1	30	30	...	Found.
Plant and machinery.							
Sawmill	...	17,964	...	16,168	...	1,796	Depreciation 10 per cent
Crane	1	146	1	139	...	7	„ 5 „
Portable Tramway	25¾ miles 1 locomotive 77 trucks 4 trollies.	67,209	25¾ miles 1 locomotive 77 trucks 4 trollies.	60,489	...	6,720	„ 10 „
Carts small	5	114	5	103	...	11	Depreciation 10 per cent.
Buildings, wooden	...	10,316	...	9,371	...	945	„ 10 „
Mathematical Instruments	...	8,305	...	7,951	...	354	„ 5 „
Furniture	...	644	...	708	64	...	„ 10 „
Stores, marine and miscellaneous	...	29,575	....	21,639	...	7,936	Difference in valuation at commencement and end. Depreciation 10 per cent. Stock reduced
							R
							For 2,727
Total	...	2,88,340	...	2,68,004	2,352	22,688	Against 31,586
Grand Total	...	3, 46,954	...	3,18,095	2,727	31,586	Against 28,859

Form No. 24. (*Paragraph 70.*)

Summary of Revenue of the Andamans Division during 1913-14.

REVENUE.

	Rs.	A.	P.
I.—Timber and other produce removed from the Forests by Government Agency—			
a. Timber	3,69,340	0	0
b. Firewood and charcoal	23,340	0	0
c. Bamboos	641	0	0
d. Sandal-wood	...		
e. Grass and other minor produce	4,783	0	0
Total I	3,98,104	0	0
II.—Timber and other produce removed from the forests by consumers or purchasers—			
a. Timber	6,779	0	0
b. Firewood and charcoal	122	0	0
c. Bamboos	36	0	0
d. Grazing and Fodder grass	...		
e. Other minor produce	290	0	0
f. Other items	...		
g. Commutation fees	...		
Total II	7,227	0	0
III.—Drift and waif wood and confiscated forest produce			
Total III	...		
IV.—Revenue from forests not managed by Government—			
a. Duty on foreign timber and other forest produce	...		
b. Revenue from shared and private forests	...		
Total IV	...		
V.—Miscellaneous—			
a. Fines and forfeitures	10	0	0
b. Refunds	601	0	0
c. Other sources	2,178	0	0
Total V	2,789	0	0
Total Revenue	4,08,120	0	0

Form No. 24—*continued.*

Summary of Expenditure of the Andamans Division during 1913-14.

EXPENDITURE.

A—CONSERVANCY AND WORKS.

	Rs.	A.	P.
I.—Timber and other produce removed from the Forests by Government Agency—			
a. Timber	1,24,760	0	0
b. Firewood and charcoal	12,704	0	0
c. Bamboos	...		
d. Sandal-wood	...		
e. Grass and other minor produce	2,061	0	0
Total A. I	1,39,525	0	0
II.—Timber and other produce removed from the Forests by consumers or purchasers	100	0	0
Total A. II	100	0	0
III.—Drift and waif wood and confiscated forest produce	...		
Total A. III	...		
IV.—Revenue from forests not managed by Government—			
a. Duty on foreign timber and other forest produce	...		
b. Revenue from shared and private forests	...		
Total A. IV	...		
V.—Rent of leased forests and payments to share-holders in forests managed by Government	...		
Total A. V	...		
VI.—Live Stock, Stores, Tools and Plant—			
a. Purchase of cattle	...		
b. Feed and keep of cattle	12,897	0	0
c. Purchase of stores, tools and plant	3,423	0	0
Total A. VI	16,320	0	0
VII.—Communications and Buildings—			
a. Roads and Bridges	1,407	0	0
b. Buildings	729	0	0
c. Other works	1	0	0
Total A. VII	2,137	0	0
VIII.—Organization, Improvement and Extension of Forests—			
a. Demarcation	...		
b. Cost of Forest Settlements; Compensation for land and rights	...		
c. Surveys	21,097	0	0
d. Working-plans	8,119	0	0
e. Sowing and planting	17,441	0	0
f. Protection from fire	...		
g. Other works	...		
Total A. VIII	46,657	0	0
X.—Miscellaneous—			
a. Law charges	...		
b. Other charges	2,625	0	0
Total A. IX	2,625	0	0
Carried over Total A.—Conservancy and Works	2,07,364	0	0

Form No. 24—*concluded.*

Summary of Expenditure of the Andamans Division during 1913-14.

	Rs.	A.	P.
BROUGHT OVER TOTAL A.—CONSERVANCY AND WORKS	2,07,364	0	0
B.—ESTABLISHMENTS.			
I.—SALARIES—			
a. Conservators	...		
b. Superior Officers	30,744	0	0
c. Subordinate forest and depôt establishments	12,800	0	0
d. Office Establishments	6,452	0	0
e. Deputation and special allowances	8,105	0	0
f. Exchange compensation allowance	...		
TOTAL B. I	58,101	0	0
II.—TRAVELLING ALLOWANCES—			
a. Conservators	...		
b. Superior Officers	4,906	0	0
c. Subordinate forest and depôt establishments	1,216	0	0
d. Office establishments	...		
TOTAL B. II	6,122	0	0
III.—CONTINGENCIES—			
a. Stationery	10	0	0
b. Carriage of tents and records	...		
c. Rents, rates and taxes	...		
d. Pay of police-guards	...		
e. Official postage	395	0	0
f. Sundries	691	0	0
TOTAL B. III	1,096	0	0
TOTAL B.—ESTABLISHMENTS	65,319	0	0
GRAND TOTAL OF ALL EXPENDITURE	2,72,683	0	0
SURPLUS (+)	1,35,437	0	0

Form No. 25. (*Paragraph 70.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Account Current for the forest year 1913-14.

RECEIPTS.	R	a.	p.	R	a.	p.	PAYMENTS.	R	a.	p.	R	a.	p.
To Cash balance	...			...			*I.—Refunds and drawbacks—*						
							By Expenditure during the year	...			2,72,683	3	11
VIII—Assessed Taxes—							„ Forest advances	...			34,013	1	6
							„ Suspense Account	...			1	14	7
To Revenue as per annual summary, form No. 67	...			...									
„ Income tax—deductions from salaries	...			1,040	15	10	*Savings Bank Deposits—*						
„ Service funds	...			...			By General Provident Fund	...			650	0	0
„ Revenue during the year	...			4,08,119	10	6							
„ Deposits	...			...									
„ Forest advances	...			33,938	8	7							
„ Suspense Account	...			1	6	0	*Cash Remittances, Local—Forest Remittances—*						
							By Remittance to Treasuries	2,92,204	13	0	...		
Service Funds—							„ Unpaid Cheques written back	146	2	0	2,92,350	15	0
							„ expenditure as per annual summary, form No. 67	...			...		
To Forest cash remittances, local—													
Bengal and Madras Service Family Pension Fund, Bengal	...			403	7	0	*Account between India and Burma—*						
Inter-divisional transfers	...			...			III—Items adjustable by India	19,758	5	9	...		
							IV—Items adjustable by Burma	150	0	0	...		
Savings Bank Deposits—							Deposits	...			...		
General Provident fund	...			6,136	12	5							
							Account between India and Bihar and Orissa—						
Cash Remittances, Local—Forest Department—							IV—Items adjustable by Bihar and Orissa	436	4	0	...		
To Forest cheques drawn	...			86,333	9	0	Remittances to treasuries	...			...		
„ Suspense	...			...			Inter-divisional transfers	...			...		
„ Account current (other Governments)	...			...									
„ Inter-divisional transfers	...			777	0	0	*Account between India and Bengal—*						
							IV—Items adjustable by Bengal	46,451	14	0	...		
Accounts between India and Burma—													
III—Items adjustable by India	16,989	4	9	...			*Account between India and Madras—*						
							Forest advances	...			...		
Accounts between India and Bengal—							III—Items adjustable by India	210	10	6	...		
							Suspense	...			...		
III—Items adjustable by India	1,731	11	11	...									
IV—Items adjustable by Bengal	385	14	9	...			*Account between India and Bombay—*						
							Account current (other Governments)	...			...		
Accounts between India and United Provinces of Agra and Oudh—							III—Items adjustable by India	1,509	10	6	70,516	2	9
							Inter-departmental transfers	...			...		
III—Items adjustable by India	1,082	12	1	20,189	11	6	Cash balance	...					
Inter-Departmental Transfers—							*Inter-Departmental Transfers—*						
Military Supply Department	149	13	0	...			Military supply department	45	15	1	...		
Telegraph Department	150	0	0	...			„ Works Public Works Department, Branch	635	8	6	...		
Post Office Department	615	11	8	...			Marine Department	7,349	3	10	...		
Marine Department	35,550	2	3	...			Civil Department	38,343	4	8	46,374	0	1
Civil Department	1,23,183	4	1	1,59,648	15	0	Cash balance	...			...		
GRAND TOTAL	...			7,16,589	15	10	GRAND TOTAL	...			7,16,589	15	10

Annual Form No. 26.

(*Paragraph 70.*)

FOREST DEPARTMENT, INDIA, ANDAMANS.

Revenue received and outstandings on account of Revenue during 1913-14.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.	Remarks.
1	2	3	4	5	6	7	8
		℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	
Andamans	Revenue from timber and other produce removed by Government Agency.	79,704 8 4	4,17,779 11 8	4,97,484 4 0	3,98,099 1 11	99,385 2 1	Approved firms pay at 90 days sight shipping documents.
	Other Revenue .	.....	9,455 0 4	9,455 0 4	9,455 0 4	.....	
	Total .	79,704 8 4	4,27,234 12 0	5,06,939 4 4	4,07,554 2 3	99,385 2 1	

Annual Form No. 27.

(*Paragraph 73.*)

Outstandings and Liabilities on account of Contractors and Disbursers for the Forest year 1913-14.

Division.	Department Debtor.			Department Creditor.			Balance Due.	
	Opening balance.	Recoveries in cash and value of supplies and work done during the year.	Total.	Opening balance.	Payments made during year.	Total.	To Department (Outstandings).	By Department (Liabilities).
1	2	3	4	5	6	7	8	9
	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.	℟ a. p.
Andamans Forest Division.	...	33,938 8 7	33,938 8 7	42 11 6	34,013 1 6	3,4055 13 0	117 4 5	...
Total .	...	33,938 8 7	33,938 8 7	42 11 6	34,013 1 6	34,055 13 0	117 4 5	...

Appendix I.

Descriptive roll of Elephants in the Andamans Forest Division on 30th June 1914.

Serial No.	Name of Elephants.	Sex.	Height. Feet.	Height. Inches.	Date of receipt.	Estimated age on 31st March 1892 or on date of receipt if received later.	Present age.	Number of years elephant has been working.	Condition.	No. of days. At work.	No. of days. At rest.	No. of days. Sick.	Cost price.	Remarks.
1	2	3	4		5	6	7	8	9	10			11	12
1	Arnold (Tusker)	Male	8	8	Before July 1891.	42	63	Y. 23 M. 0	Fair	303	62	...	...	
2	Goolabi	Female	7	9	March 1895	41	59	19 0	Do.	272	93	...	2,605	
3	Viper	"	7	10¾	Before March 1886.	37	58	28 0	Do.	202	76	87	...	
4	Bhokaung (Tusker).	Male	8	4	March 1894	37	56	20 0	Good	242	123	...	4,088	
5	Hannah	Female	7	6	Before July 1891.	34	55	Over 23 0	Fair	267	72	26	...	
6	Wellington (Tusker)	Male	8	3¼	March 1895	35	54	19 0	Good	206	102	3	3,855	
7	Sahpah (Tusker)	"	8	4	" 1894	34	53	20 0	Do.	278	87	...	3,538	
8	Mahpah	Female	8	0	" 1894	32	53	20 0	Fair	...	...	365	2,813	Under treatment for abscess.
9	Pagi	"	7	9	" 1894	33	52	20 0	Good	264	101		2,713	
10	Bhairon Parshad (Tusker).	Male	8	4	December 1895.	33	51	Over 18 6	Do.	206	137	22	3,188	
11	Australia	Female	7	7½	Before March 1886.	29	50	28 0	Do.	188	105	72	...	
12	Jangipuri	"	7	10½	April 1891	28	50	23 0	Do.	124	64	177	3,025	
13	Paul (Tusker)	Male	8	9	March 1895	31	49	19 0	Very good	282	83	...	3,763	
14	Bahram (Tusker)	"	8	7	December 1895.	29	47	18 6	Good	243	122	...	3,555	
15	Mipu	Female	7	1	21st February 1907.	41	47	7 5	Do.	141	50	174	4,972	
16	Kawal	"	7	10	26th April 1906.	29	46	8 2	Do.	227	90	48	6,312	
17	Adolphus (Tusker)	Male	7	11	Before March 1886.	24	45	Over 28 0	Do.	164	86	165	...	
18	Suraj Mukhi	Female	...	...	11th February 1902.	34	45	12 4	Do.	...	...	...	4,523	Let loose. Written off.
19	Lily	"	8	...	Do.	31	42	12 4	Do.	270	95	...	4,523	
20	Rani	"	...	...	Do	31	42	12 4	Do.	...	...	...	4,523	Let loose. Died
21	Bhola Nath (Tusker).	Male	8	7	28th February 1903.	31	41	11 5	Do.	248	78	39	5,914	on 25th January 1914.
22	Latchmi Parshad (Tusker).	"	9	2	Do.	31	41	11 5	Very good	260	77	28	6,415	
23	Aurangabad	Female	7	8	May 1892	2	39	22 0	Good	276	89	...	2,530	
24	Meerut	"	8	4	11th February 1902.	28	39	12 4	Very good	121	67	177	4,523	
25	Sangeswar Parshad (Tusker).	Male	8	8	3rd January 1905.	3	39	9 6	Do.	274	88	3	6,464	
26	Gulbadan	Female	7	9	11th February 1902.	27	38	12 4	Do.	115	244	6	4,523	In Calf, see below.
27	Delhi	"	7	10	Do.	27	38	12 4	Do.	264	101	...	4,523	
28	Motimala	"	7	10	Do.	26	37	12 4	Do.	231	127	7	4,523	
29	Gopal Das (Tusker).	Male	9	1	28th January 1905.	26	36	11 5	Do.	225	140	...	6,215	
30	Sundar Parshad (Tusker).	"	9	2	25th May 1911.	26	36	11 5	Do.	218	113	34	5,915	
31	Tupong (Tusker)	"	7	10½	3rd January 1905.	29	36	8 2	Good	225	63	77	6,312	
32	Pawan Piyari	Female	7	6	25th May 1911.	33	35	3 1	Do.	202	163	...	5,543	
33	Ganga Parshad (Tusker).	Male	8	5	3rd January 1905.	26	34	9 6	Do.	302	63	...	6,464	
34	Amir (Tusker)	"	8	4	28th January 1903.	24	34	11 5	Very good	285	76	4	5,915	
35	Sundarmala	Female	7	3	25th May 1911.	31	33	3 1	Good	255	100	10	4,893	
36	Madho	"	8	...	26th April 1906.	24	31	8 2	Do.	163	121	81	6,312	
37	Bateswar	"	7	1	25th May 1911.	31	33	3 1	Do.	296	69	...	5,093	
38	Maxie	"	8	8	Born in January 1886.	7	28	12 0	Very good	259	106	...	...	
39	Lachmania	"	7	2	25th May 1911.	23	25	3 1	Good	275	90	...	4,693	
40	Megmala	"	6	10	Do.	21	23	3 1	Do.	270	80	15	4,392	
41	Sudamani	"	6	8	22nd June 1911.	15	17	3 0	Do.	4	361	...	3,250	
42	Chester Bahadur	Male	8	6	Born in August 1897.	...	17	... ...	Very good	266	88	11	...	
43	Sohlich do.	"	7	7	Born in January 1900.	...	15	... ...	Do.	246	109	10	...	
44	Jaimoti	Female	5	2	25th May 1911.	3½	5½	... ...	Do.	4	361	...	375	
45	Nur Jahan	"	3	4	Born in March 1914.	...	...	... ...	Do.	...	...	...	...	Calf of Gulbadan.

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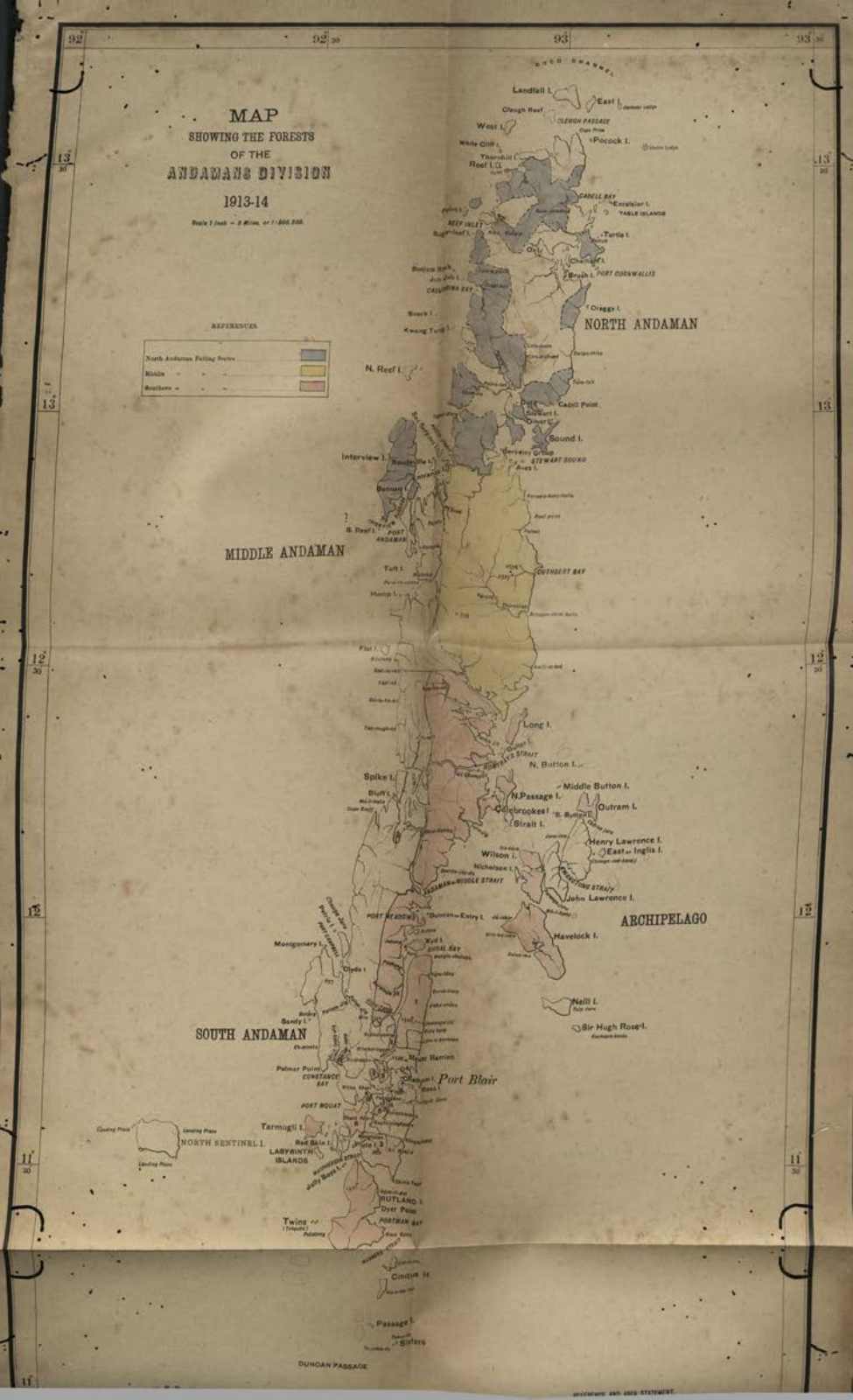
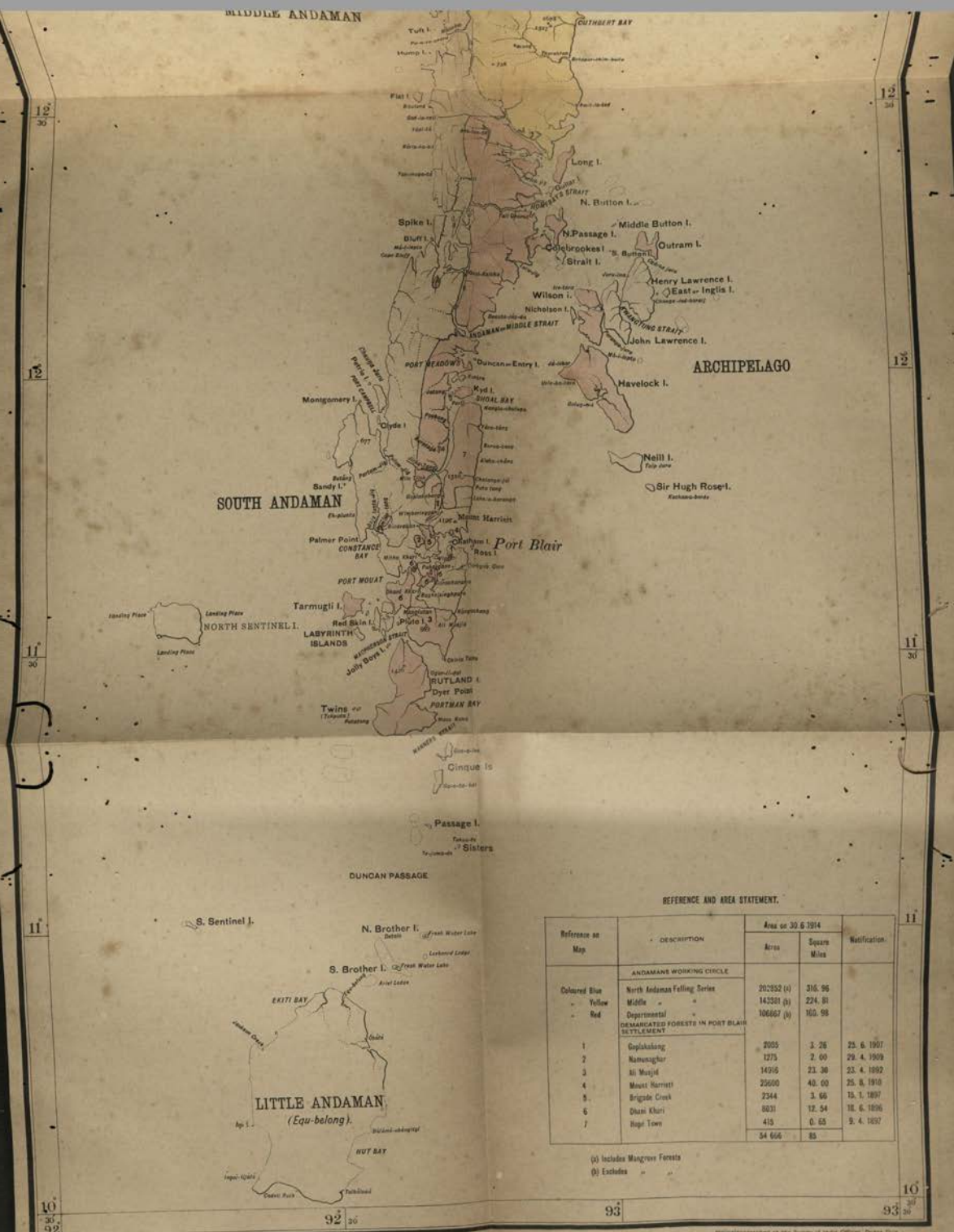

MAP
SHOWING THE FORESTS
OF THE
ANDAMANS DIVISION
1913-14
Scale 1 Inch = 2 Miles, or 1:126,720.
REFERENCES
North Andaman Felling Series
Middle " " "
Southern " " "
NORTH ANDAMAN
MIDDLE ANDAMAN
SOUTH ANDAMAN
ARCHIPELAGO
Port Blair
NORTH SENTINEL I.
LABYRINTH ISLANDS
Landfall I.
East I.
Pocock I.
Excelsior I.
TABLE ISLANDS
Turtle I.
Brush I.
PORT CORNWALLIS
Oregey I.
N. Reef I.
Cadell Point
Sound I.
Interview I.
Bennett
S. Reef I.
PORT ANDAMAN
Tuft I.
OUTHBOT BAY
Long I.
N. Button I.
Middle Button I.
N.Passage I.
Outram I.
Spike I.
Sirait I.
Henry Lawrence I.
East or Inglis I.
Wilson I.
Nicholson I.
John Lawrence I.
Havelock I.
Neill I.
Sir Hugh Rose I.
Tarmugli I.
Twins
Cinque I.
Passage I.
Sisters
DUNCAN PASSAGE



REFERENCE AND AREA STATEMENT.

Reference on Map	DESCRIPTION	Area on 30.6.1914 Acres	Area on 30.6.1914 Square Miles	Notification
	ANDAMANS WORKING CIRCLE			
Coloured Blue	North Andaman Felling Series	202952 (a)	316. 96	
" Yellow	Middle " "	143381 (b)	224. 81	
" Red	Departmental " "	106867 (b)	160. 98	
	DEMARCATED FORESTS IN PORT BLAIR SETTLEMENT			
1	Goplakalang	2005	3. 26	23. 6. 1907
2	Namunaghar	1275	2. 00	29. 4. 1909
3	Ali Masjid	14916	23. 30	23. 4. 1892
4	Mount Harriett	25600	40. 00	25. 8. 1916
5	Brigade Creek	2344	3. 66	15. 1. 1897
6	Dhani Khuri	8031	12. 54	18. 6. 1896
7	Hope Town	415	0. 65	9. 4. 1897
		54 666	85	

(a) Includes Mangrove Forests
(b) Excludes " "

Drawn in the Forest Map Office from a tracing supplied by the Dy. Conservator of Forests, Andamans
Rep. No. 524 S. D. O. 1914-Forest-150.

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on 01 February, 2020